FREIGHT TRAFFIC ISSUE

How One Shipper Uses A 'Traffic Task Force'

June 27, 1960

RAILWAY AGE *weekly*

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Transport Costs

CB&Q President Murphy contrasts rails with trucks, barges

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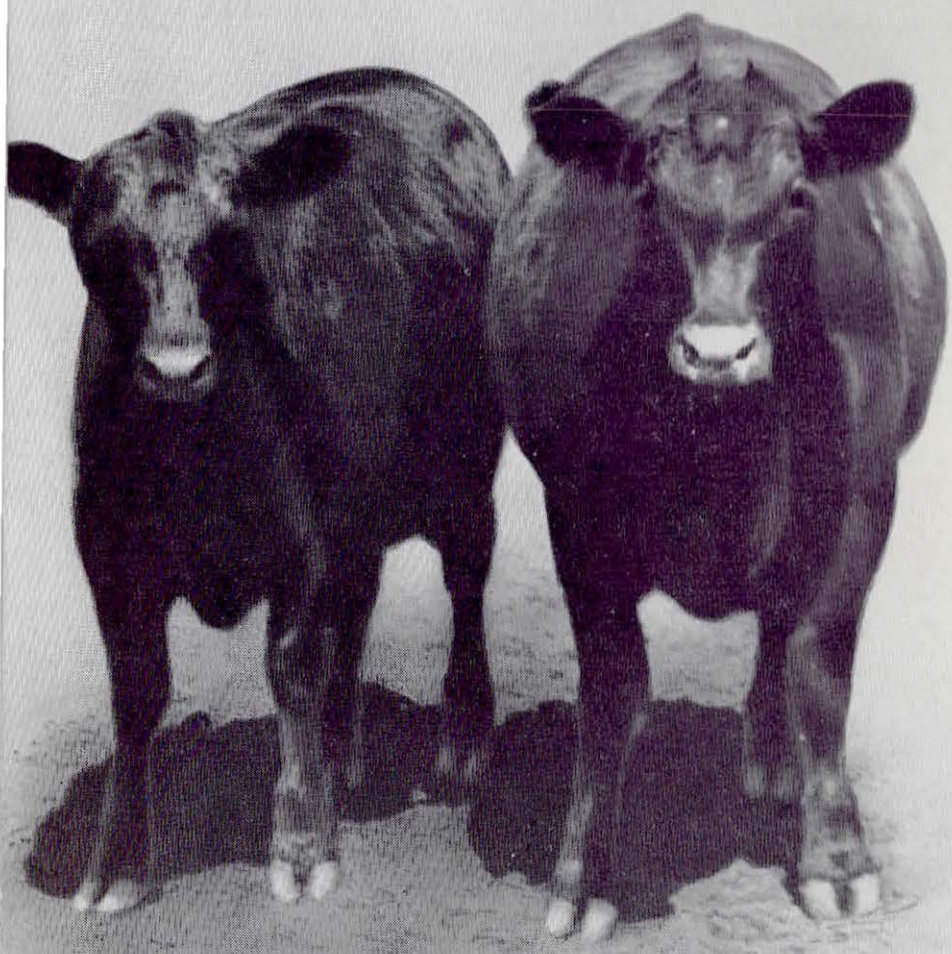

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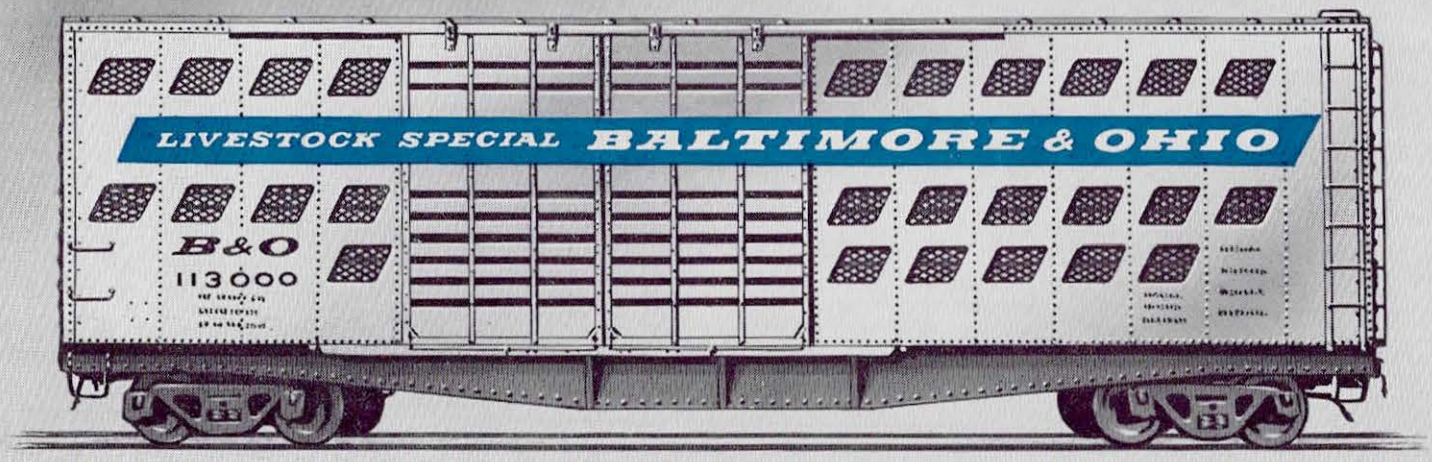

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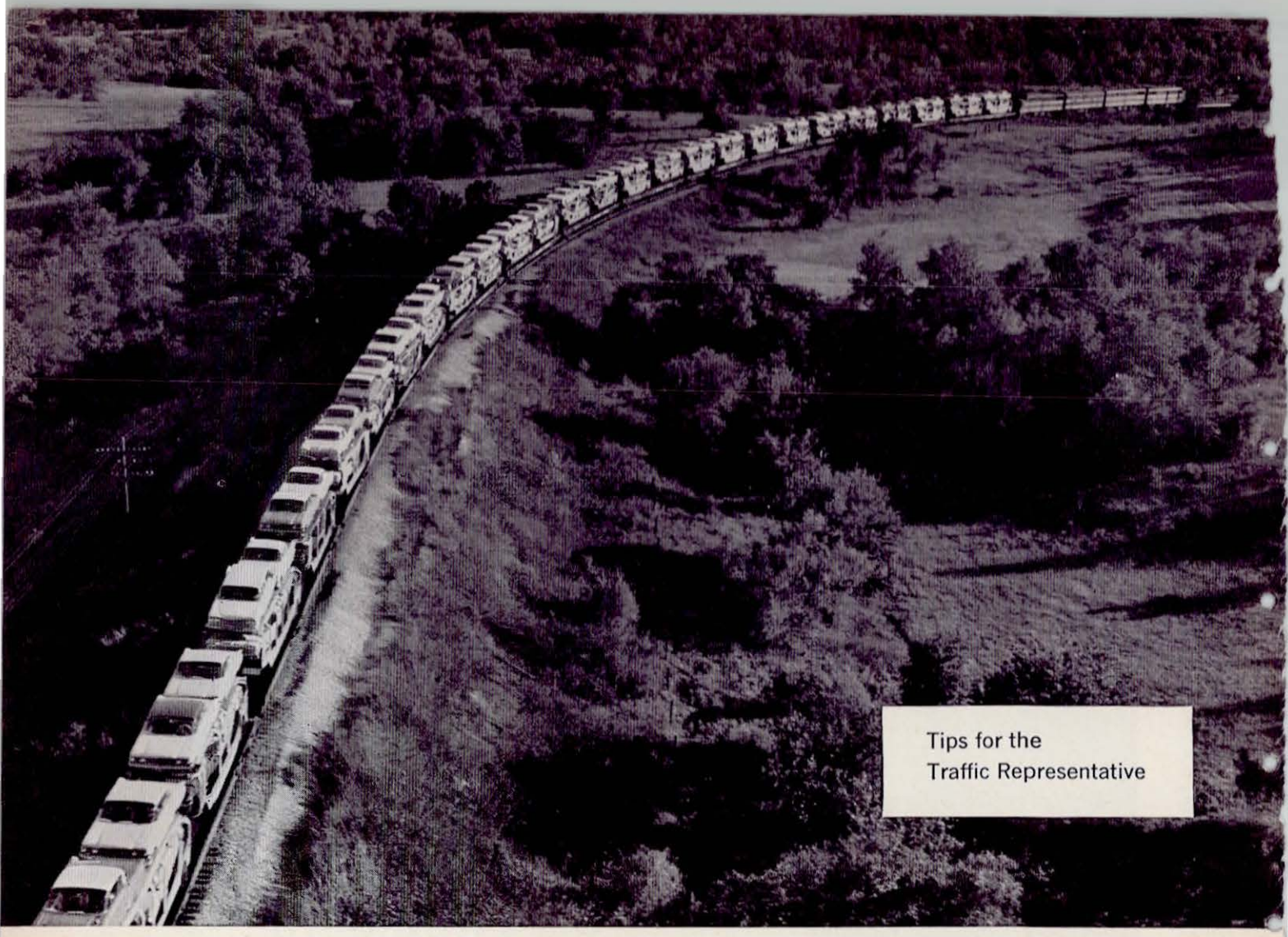

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Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.

Published weekly by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn. Second-class postage paid at the Post Office at Orange, Conn. James G. Lyne, chairman of the board; Arthur J. McGinnis, president and treasurer; Duane C. Salisbury, executive vice-president; George Dusenbury, vice-president and editorial and promotion director; Robert G. Lewis, Joe W. Kizzia, M. H. Dick, M. J. Figa, R. C. Van Ness, vice-presidents.

BRT gets 4% wage increase ..... p. 9

An agreement signed with the Trainmen last week will cost the railroads approximately $30 million a year. Three of the five operating unions have now settled on the BLE arbitration-award pattern. Meanwhile, negotiations in the non-op wage case are scheduled to reopen this week.

RRs begin missile-train tests p.12

The railroads moved into the missile age last week as a "pre-prototype" Minuteman train moved out of Ogden, Utah, on a dry run. UP handled the 14-car train on the first leg of the test.

In air freight, it's speed vs. cost p.17

Speed, or its effect, is air freight's biggest advantage, while cost is its biggest disadvantage. That's the collective majority opinion of respondents to a Railway Age Traffic Poll.

Cover Story—Transport costs: rail vs. barge p.20

The efficiency of American railroads has been largely neutralized by federal, state and local governments. So says Burlington President H. C. Murphy in an article written especially for Railway Age. The neutralization, he points out, stems from the inequitable treatment accorded the various modes of transport. With equitable treatment, he concludes, railroads could provide better service at lower cost, and at no cost to the taxpayer.

Cover Story—Frisco puts new stress on sales p.30

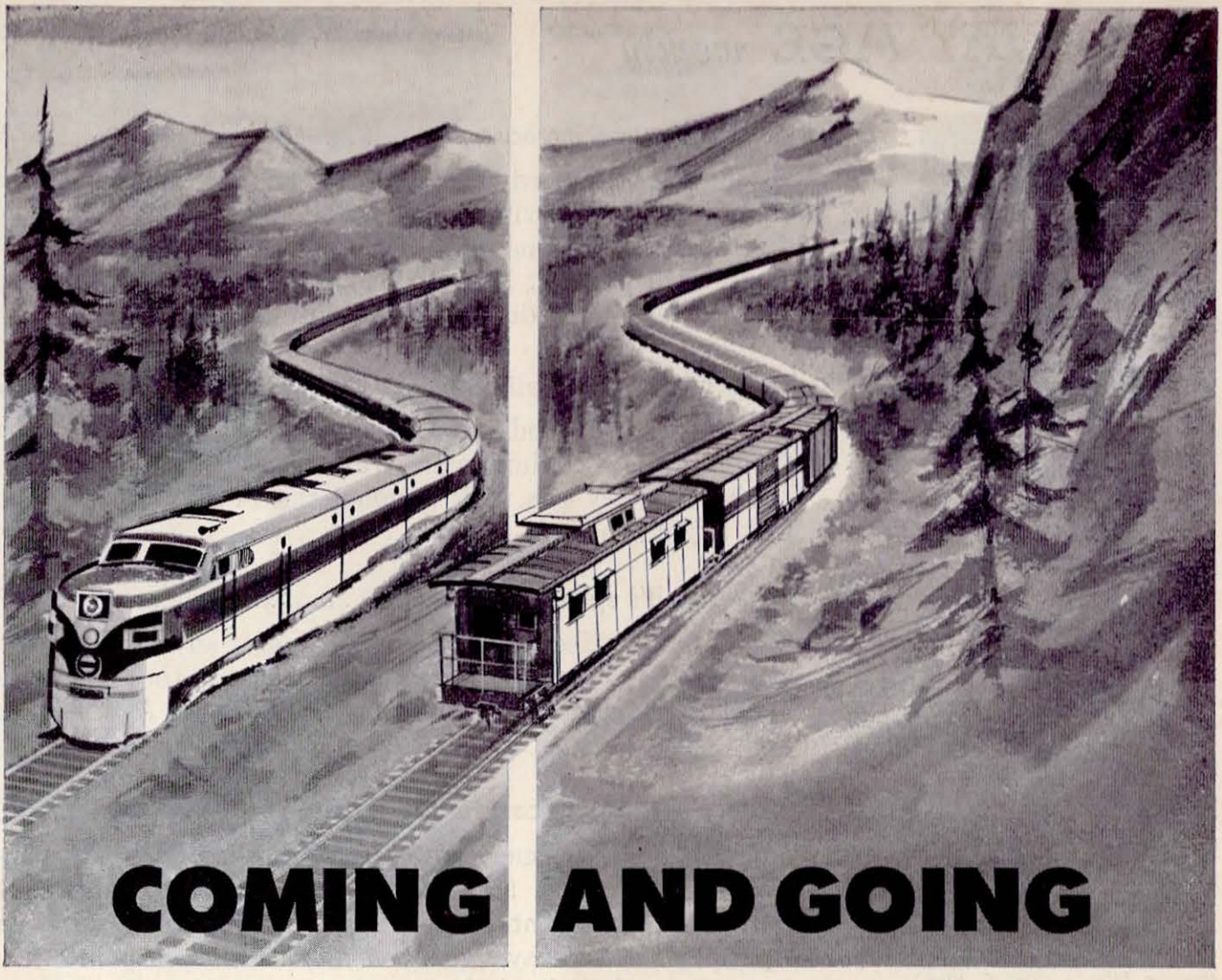
Almost every phase of the road's traffic effort has been modernized and upgraded in the past five years. Currently, the emphasis is on a sales education program.

Maintenance: More for the money p.40

Getting the most value from the maintenance dollar was the subject of a recent two-day RSPA seminar in Chicago. Top engineering and maintenance officers explored basic questions involved in programming—"the key to earning a satisfactory return on investment."

NYC uses walkie-talkies to fight vandalism p.46

Rock-throwing by juveniles promises to be less of a problem for the Central now that radio-equipped patrolmen are riding the cabs of trains in the commuter area.



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Week at a Glance CONT

Current Statistics

Operating revenues	
4 mos., 1960 ...	$3,234,559,129
4 mos., 1959 ...	3,246,255,701
Operating expenses	
4 mos., 1960 ...	2,547,246,510
4 mos., 1959 ...	2,561,979,109
Taxes	
4 mos., 1960 ...	360,571,999
4 mos., 1959 ...	342,591,970
Net railway operating income	
4 mos., 1960 ...	211,989,020
4 mos., 1959 ...	236,919,680
Net income estimated	
4 mos., 1960 ...	147,000,000
4 mos., 1959 ...	162,000,000
Average price railroad stocks	
June 21, 1960 ..	94.89
June 23, 1959 ..	111.02
Carloadings, revenue freight	
23 wks., 1960 ..	13,848,877
23 wks., 1959 ..	14,272,211
Freight cars on order	
June 1, 1960 ..	36,106
June 1, 1959 ..	36,869
Freight cars delivered	
5 mos., 1960 ..	25,360
5 mos., 1959 ..	14,322

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Change of address should reach us three weeks in advance of next issue date. Send old address with new, enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Circulation Dept.: R. C. Van Ness, Director of Circulation, 30 Church St., New York 7, N. Y.

POSTMASTER—SEND FORM 3579 to EMMETT ST., BRISTOL, CONN.

Printed at the Wilson H. Lee Co., Orange, Conn.

Cover Story—'Traffic task force' aids customers p.52

Traffic experts from International Minerals & Chemical Corp. recently spent three months visiting customers here and in Canada. Their mission: to help individual plant food manufacturers cut transport costs and improve service.

'Blast chilling' guards perishables p.62

A new high-speed chilling technique is winning acceptance by commercial carriers of fresh and frozen food products. The new process was developed by the Pure Carbonic Co.

The Action Page—Mr. Murphy audits RR efficiency p.74

The public is entitled to the best in railroad transportation. Present government policies deny railroads the opportunity to provide it. The Burlington, for example, outperforms rival transportation agencies in every category of relative efficiency, except those which involve fixed plant. How can government authorities excuse the arbitrary handicapping of the useful type of public service performed by railroads?

Short and Significant

A new corporate name . . .

is being sought by Railway Express Agency. President William B. Johnson says he would like to find one "more befitting the modern-day express business and its diversified and far-flung domestic and international services by air, highway and sea as well as by rail." A contest among REA employees for this purpose will end July 26.

An additional conductor . . .

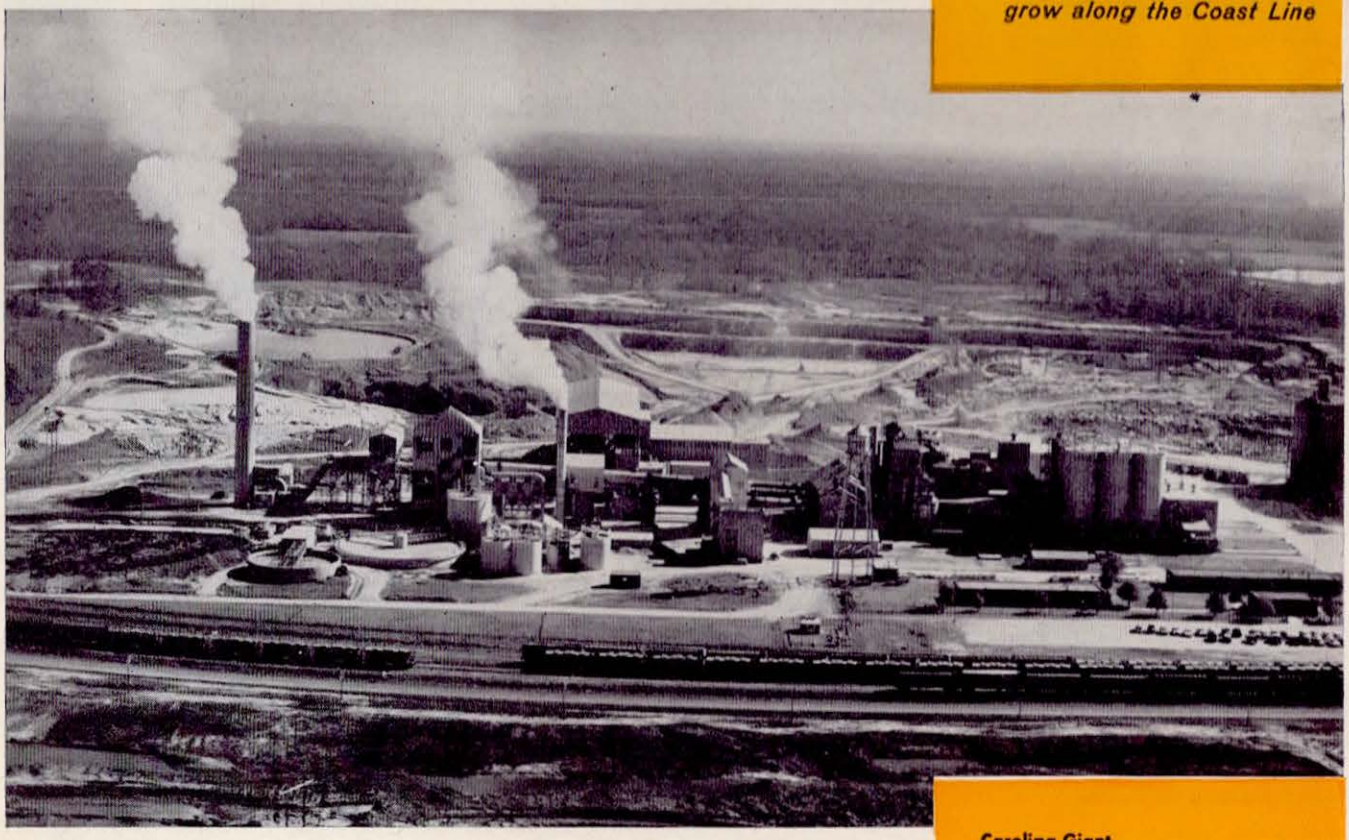
is not usually needed on New York Central trains carrying sleeping cars, according to an emergency board which made its report to President Eisenhower last week. The extra-conductor demand was made by the ORC&B to take care of former Pullman conductors whose work was transferred to NYC train conductors in 1958, when NYC took over operation of sleeping cars on its lines. The board noted that Central has assigned second conductors to the comparatively few trains on which additional help is required, but it nevertheless recommended that the parties negotiate an agreement establishing procedures for such assignments.

Chief traffic officers of eastern railroads . . .

met June 22 to discuss needs for increased revenues arising out of agreements with the unions calling for higher wages. No definite conclusions were reached. Possibilities will be explored by individual railroads with the likelihood of a further meeting in July.

Shippers Along the Coast Line

One of a series spotlighting the companies that work and grow along the Coast Line



Passing a Mountain Through a Sieve...

The manufacturing process used by Giant Portland Cement Company, Carolina Giant Division, has been aptly described as "passing a mountain through a sieve". The reason for this description is that the Company's raw materials are reduced to a powder fine enough to pass through a screen with 100,000 openings per square inch—as compared with ordinary kitchen flour's passing through a sieve with less than 400 openings to the square inch.

The Carolina Giant Division of the 77-year-old Giant Portland Cement Company was opened in 1948. Located near Harleyville, South Carolina, the plant employs more than two hundred people, and produces cement for the southeastern market. Expansion will soon increase plant capacity of three million barrels a year to well over four million.

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Division of Giant Portland Cement Co.
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ATLANTIC COAST LINE RAILROAD

BRT Gets 4% Wage Increase

► **The Story at a Glance: Wage negotiations between the carriers and the unions are heading into the homestretch. Late last week, three of the five operating unions had signed agreements with the carriers on terms hammered out by an arbitration board in the BLE case, and a fourth was reported close to agreement on the same terms.**

The non-op picture was less clear. The carriers were ready to negotiate on the basis of an emergency board's recommendations, but non-op union leaders indicated they'd stick by their original demands.

Another $30 million was tacked onto the railroads' annual wage bill last week as the Brotherhood of Railroad Trainmen accepted the terms of an arbitration award handed down in the Engineers' case, and previously accepted by the Order of Railway Conductors & Brakemen. There were indications that the Brotherhood of Locomotive Firemen & Enginemen was ready to sign on the same terms. This would leave, among the operating brotherhoods, only the SUNA case unresolved. The Switchmen are awaiting the recommendations of an emergency board, due July 15.

Meanwhile, the carriers and the non-ops are set to reopen wage negotiations in Chicago June 30. Recommendations of a non-op emergency board for a wage increase and fringe benefits that would add up to about 10 cents an hour have been accepted as a bargaining basis by the carriers—but not by the 11 non-operating unions, which are demanding a 25-cent-an-hour wage hike plus fringe benefits.

Ted Short, spokesman for the Carriers' Conference Committees, said that as a negotiating party under the Railway Labor Act "the carriers accept the recommendation that this principle [the BLE arbitration award] should apply to the 600,000 non-operating employees in the industry and are prepared to negotiate with union representatives on this basis."

But the non-op union leaders have openly expressed disappointment with the recommendations and are demanding that negotiations be resumed on the basis of the original wage demands rather than in the light of the 5-cents-an-hour wage increase advocated by the emergency board. The board also recommended negotiated improvements in health and welfare benefits for workers and dependents, group life insurance financed by the carriers and additional unemployment benefits to furloughed workers. These latter issues are maintained by the carriers to be non-bargainable under the Railway Labor Act.

The emergency board recommendations that have found disfavor with the non-ops are generally in line with the settlement that has now been reached with most of the operating unions.

The Trainmen and the carriers signed an agreement on this basis late last week. The agreement with the BRT will add approximately $30 million to the carriers' annual wage costs.

The Trainmen agreed to a two-step, 4% pay increase—2% on July 1, 1960, and 2% on March 1, 1961.

A spokesman for the carriers noted that "in an industry where earnings have been going down steadily in recent years, it is obvious that any increase in wages at this time is going to hurt the general public and the employees as well as the railroads themselves. Very few railroads in this country can pay the cost of these wage raises out of earnings. This means that, unless ways to cut the exorbitant cost of featherbedding waste are found, rates must be increased and jobs eliminated."

P&LE OK's Wrist Watch

Pro and con discussion of a standard railroad wrist watch can move now from the academic to the practical. One railroad—the Pittsburgh & Lake Erie—has approved use of a wrist watch by operating employees. Several other carriers—among them GN, NP and SP&S—reportedly have the new time-piece under test.

Elgin National Watch Co., of Elgin, Ill., put more than two years of research and development work into the watch, a 23-jewel "railroad wrist chronometer" which will bear the B. W. Raymond name (used by Elgin on its railroad pocket watches for more than 96 years). Full-scale distribution of the new time-piece will be reached next autumn.

According to Elgin, the Raymond watch combines "the convenience of a wrist type with the accuracy and ruggedness of a pocket watch." Generally, the watch resembles a version produced for the U. S. Air Force. Modifications include dynamic poising of the balance and installation of a special iron dial which shields the watch from magnetism. The watch has a full-figured dial with small second hand.

Heart of the watch, Elgin says, is a "special split second setting device . . . Pulling out the crown permits accurate setting of the watch to the second. It can be synchronized daily, if desired, with a master clock."

(Development and use of a standard wrist watch has been a hot discussion subject in Railway Age's Current Railroad Questions column.)

FIRST WATCH off the line was presented to P&LE President John W. Barriger (right) by William E. Koch, Elgin vice president.

Full-Cost Rate Basis Defended

The ICC still thinks fully-distributed costs should be the basis for identifying the low-cost carrier, and thus the rate-making carrier, in a competitive situation. That's contrary to the railroad position that fully-distributed costs should have no role in competitive rate-making.

The Commission's position was set forth last week in a lengthy statement made by Chairman Winchell to the Senate's merchant marine and fisheries subcommittee. The subcommittee previously heard water carrier and trucker complaints against railroad rate practices and Commission decisions since enactment of the 1958 Transportation Act's rate-freedom provisions. It also heard the railroads' answer and the National Industrial Traffic League's support of the railroad position (RA, June 6, p. 9.).

The most economical mode of transportation in a competitive situation "should be determined by using full costs as a basis," Chairman Winchell told the subcommittee. He emphasized, however, that full cost was not the only factor to be considered in passing on a competitive rate proposed by a "higher cost" agency.

The full-cost approach, Mr. Winchell said, "does not mean that in every instance the carrier having the higher full costs should not be permitted to compete for traffic with the carrier having the lower full costs." The ICC chairman went on to mention "circumstances under which the various forms of regulated carriage may be forced, at one time or another, to establish rates somewhat below their full costs."

As an example of what he had in mind Mr. Winchell referred to situations wherein a regulated carrier was attempting to meet competition from unregulated carriage—"such as private carriers and the transportation of com-

Watching Washington *with Walter Taft*

• **TAX ON FARES** will continue on the 10% basis for another year at least. This set-back for railroads and other for-hire carriers of passengers came last week when the Senate passed its amended version of the House-approved excise bill—without changing the fare-tax provision (RA, June 6, p. 10). Thus, the provision is identical in both versions, so it can't be changed by the joint conference committee which will shape up the final bill by reconciling differing phases of the House and Senate versions.

THE SENATE ACTION involved rejection of an amendment to repeal the tax, which was proposed by its Committee on Finance. Gone, too, of course, is hope for reduction of the levy to 5%, as proposed in legislation enacted last year. That legislation will be superseded by the extension act.

• **UNION-SHOP CASE** won't be decided by the United States Supreme Court before its recess for the summer. The case, No. 258, involves the question of whether a railroad employee can be forced to pay dues to a union that will use any part of such payment for political purposes. The suit was brought by a group of Southern employees in an undertaking to upset the non-ops' union-shop contracts with that road. It came up from a Georgia court which upheld the employees.

THE POSTPONEMENT was ordered by the Supreme Court because the Attorney General of the United States had not been formally notified that the constitutionality of the Railway Labor Act's union-shop provision was in issue. The court order gave the formal notice and set the case for reargument next term, which begins in October.

• **IN ANOTHER CASE,** the court has decided that conditions can be attached to a federal-court order enjoining a railroad strike pending settlement of a dispute by the National Railroad Adjustment Board. The dispute, between the Katy and Brotherhood of Locomotive Engineers, involved a steam-to-diesel conversion which lengthened runs, eliminated some crews, and changed terminals of remaining crews.

MAINTENANCE of employment on the steam-operation basis pending an Adjustment-Board ruling was required by the federal district court as it enjoined a threatened strike. Both sides appealed—BLE against the injunction and Katy against the conditions. The Circuit Court of Appeals sustained the injunction but vacated the conditions, so BLE took the case to the Supreme Court. The present ruling upholds the district court on both counts.

• **SLOW RAILROADING FOR LUMBER** must end July 21, unless interested railroads add a compensatory charge for the service. Upholding its Division 2's decision of last year, the ICC has ordered cancellation of tariffs offering to hold cars loaded with lumber for 15 days free of demurrage at 19 points in Western Trunk Line Territory.

THE CONDEMNED TARIFFS have been in effect for a year. They were published to compete with a like service of Canadian roads, and with circuitous routes in this country which afford slow service to shippers of lumber. The Commission said continuance of the holding arrangements would encourage undue detention of box cars, provide for service beyond that called for by line-haul rates, and bring like demands from shippers of other commodities.

by ICC

modities exempt from the rate filing requirements of the act."

To the extent that it was stated by Chairman Winchell, the ICC's policy in competitive rate cases involving regulated carriers seems to be that the low-cost carrier, on the fully-distributed cost basis, is entitled to protection. This seems to mean that a competing carrier with higher full costs will be permitted to publish rates which are above its own out-of-pocket costs, though below its full costs—provided they are not below the full costs of the "low-cost" carrier.

Generally, however, Chairman Winchell defended the Commission's case-by-case approach, rejecting suggestions of senators that it would be better to establish somewhat firm competitive-rate policies or "guidelines." Discussions along this line developed into something of a sparring match, leaving implications that the senators and committee staff members did not follow or go along with all refinements and distinctions made by Chairman Winchell as he commented on Commission decisions under attack.

Emphasis Changed

As to what the 1958 act's rate-freedom provision means, Chairman Winchell said its prohibition against "umbrella rate making" was an admonition to the Commission "not to do what we thought we weren't doing." More specifically, the chairman said later that the Commission interpreted the provision as one which "changed the emphasis," i.e., called for less concern for carriers protesting competitive rates and more sympathetic consideration of presentations made by carriers proposing such rates.

"Much of the confusion and misunderstanding" concerning the meaning and effect of the rate-freedom provision has resulted from "a determined effort to apply the paragraph literally and independently of other standards of lawfulness in other rate-making provisions of the act," Chairman Winchell also said. He added that a "sound, objective and practical" construction of the 1958 amendment "becomes less formidable" when it is understood that "there is not the slightest indication in that amendment or in its legislative history, of any intention to change or modify in any respect whatsoever the standards of lawfulness specified in the other rate-making provisions of the act."

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RRs Begin Missile-Train Tests

► **The Story at a Glance: Dry-run tests of SAC's missile-train concept (RA, June 13, p. 7) got under way last week at Hill Air Force Base, Ogden, Utah. UP handled the train on its first leg of a test that will eventually involve more than 20 railroads in dry runs planned between now and November. The eventual goal: a mobile ICBM deterrent force of solid-fuel Minuteman missiles carried aboard special trains.**

A 14-car train out of Ogden, Utah, last week launched the railroads squarely into the missile age. The 14 cars were Department of Defense rolling stock assembled specially to test control and communications of the Strategic Air Command's "Mobile Minuteman" missile program.

Minuteman is a three-stage, solid propellant intercontinental ballistic missile weapon system. It is being developed for SAC under the direction of the Air Force Ballistic Missile Division, Air Research and Development Command. The missile, which is now scheduled to achieve its initial operational capacity in 1962, will have a range of more than 6,000 miles.

According to Boeing Airplane Company, associate contractor for assembly and test of the missile, Minuteman provides the best "cost effectiveness" of any major strategic weapon system, with cost effectiveness being defined as "the capability of a weapon system in relation to its cost."

In figuring cost effectiveness, the missile's reliability, operating and maintenance costs and procurement costs are balanced against the end result in performance. Minuteman scores high for several reasons, among them the fact that only part of the Minuteman production is designed for operation from the costly "hard" sites in concrete underground silos. A considerable number of Minuteman missiles will be mobile, traveling aboard special railroad trains to greatly increase the number of targets for a potential enemy.

Plans are for the trains to travel at random over the United States railroad system, with missiles kept ready for launching for varying times at designated railheads. One portion of the mobile force will always be ready for launching while another is traveling to new locations.

The test runs that began last week are being carried out under an agreement between the U.S. Air Force and the AAR. Six test runs, lasting from 7 to 14 days each, are now planned. The first three test runs will originate from Hill AFB near Ogden, Utah. The last three runs are scheduled from Des Moines, Iowa.

Thirteen railroads have been announced as participating (UP, SP, WP, D&RGW, NP, GN, CGW, DM&IR, C&NW, Soo Line, IC, Milwaukee, CB&Q), but SAC says that more than 20 roads will probably eventually participate.

No missile hardware or associated ground support equipment will be carried in these tests, which are designed primarily to test control and communications. Later tests are expected to include flat-car mounted Minuteman engines to determine stress and strain factors associated with rail movements.

The first train carried three groups of personnel. The 21-man military train crew was made up of SAC personnel, including the train commander and specialists to control communications, operations, administration, food services, water purification and sanitation, security and medical services.

Crews for engine and train operation are furnished by the railroads on whose tracks the trains are being run. Also along as observers: representatives of Boeing, the Air Materiel Command, the Ballistic Missile Division and the Association of American Railroads.

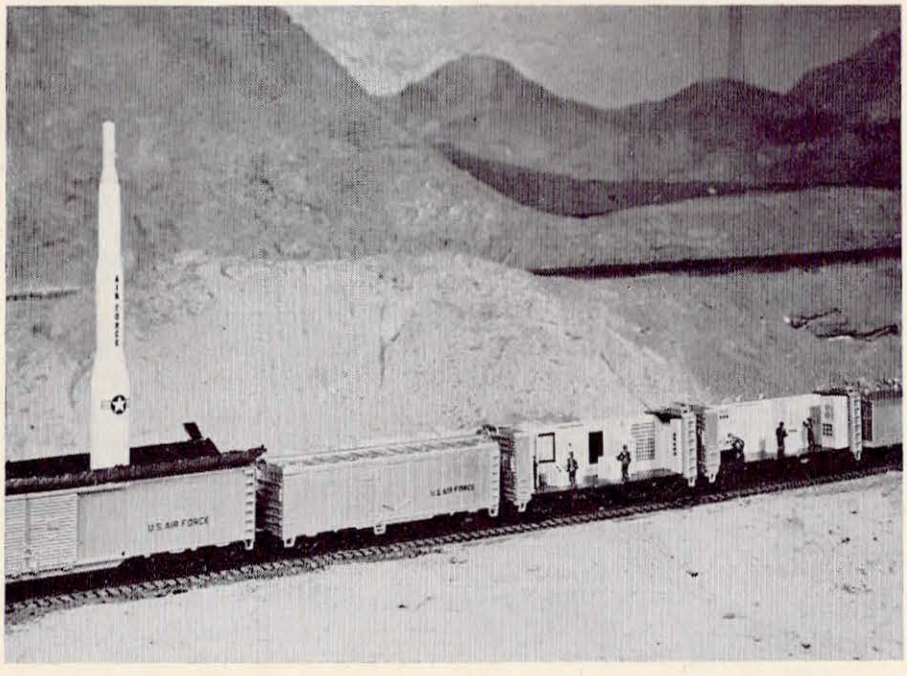
The Transportation Depot Maintenance Division of the U.S. Army, working with various Air Force commands, was asked to provide existing Army railroad cars to make up the train. Fourteen cars were involved: a command and communication (launch control) car, six ambulance unit cars, two hospital unit cars, two flat cars, two tank cars and one box car.

The train, which was modified and assembled in a 90-day period, is self-sufficient for a two week period away from its base. A complete electrical system was installed, with sufficient diesel fuel supply to drive generators for two weeks if needed.

Cars were designed to be lived in for a two week period, with partitions installed in living quarters, dryers and washing machines added, etc.

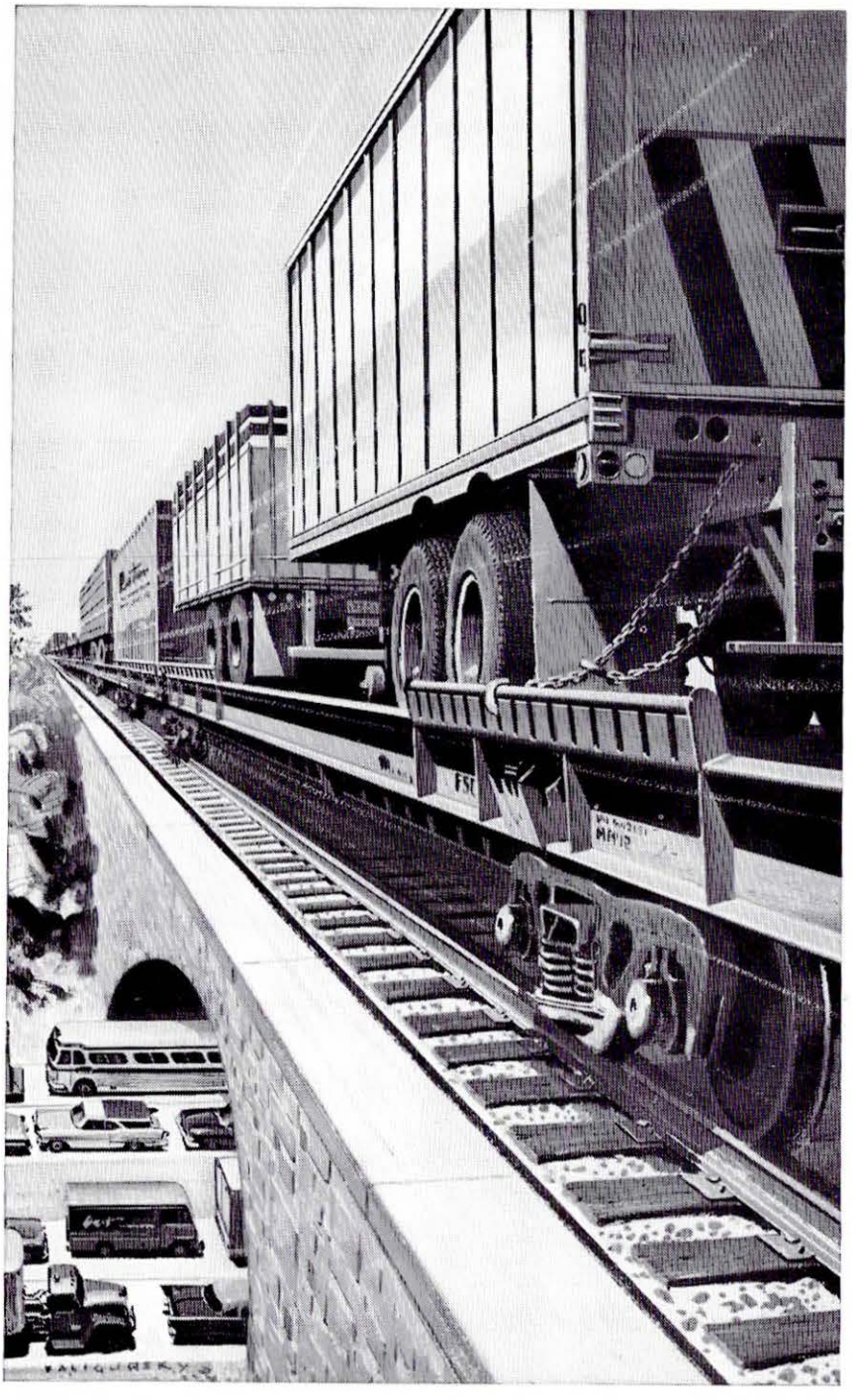
The chief tactic being tested in the first tests is random movement. The test train moves between available sidings under directions from the train commander, the Train Control Center and the SAC Command Post at various times.

All train movements are coordinated with operating superintendents and dispatchers of the rail lines involved. Other tactics being studied include movement over long distances with short standing times at sidings, and short-distance movements with relatively long siding times.



MOBILE MINUTEMAN missile system, shown here in an HO model of an early design, is now in a pre-prototype test stage. A 14-car train designed to test control and communications facilities last week initiated a series of similar tests planned between now and November on western roads.

Expressway without a traffic jam



It's 218,000 miles long and it didn't cost you a cent in taxes. With only *two* sets of track, a *railroad* expressway can handle the traffic of *twenty* four-lane highways built with public funds.

Truck trailers in ever-increasing numbers are deserting crowded highways for this steel expressway. More and more, standardized vans and containers interchangeable with other forms of transport are riding the rails "piggyback"...bringing you the things you need, the things you buy.

Piggyback is a spectacularly successful example of the forward thinking on the railroads today. This is railroad progress that benefits everyone – for we'll need railroads more than ever in the boom years ahead.

That's why an enlightened public policy, giving railroads equal opportunity with competing forms of transportation, is in everyone's interest. America's railroads – the lifeline of the nation – are the main line to *your* future.

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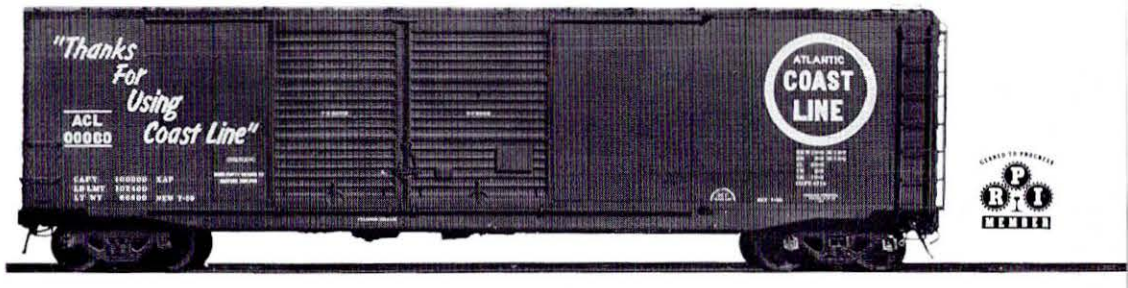

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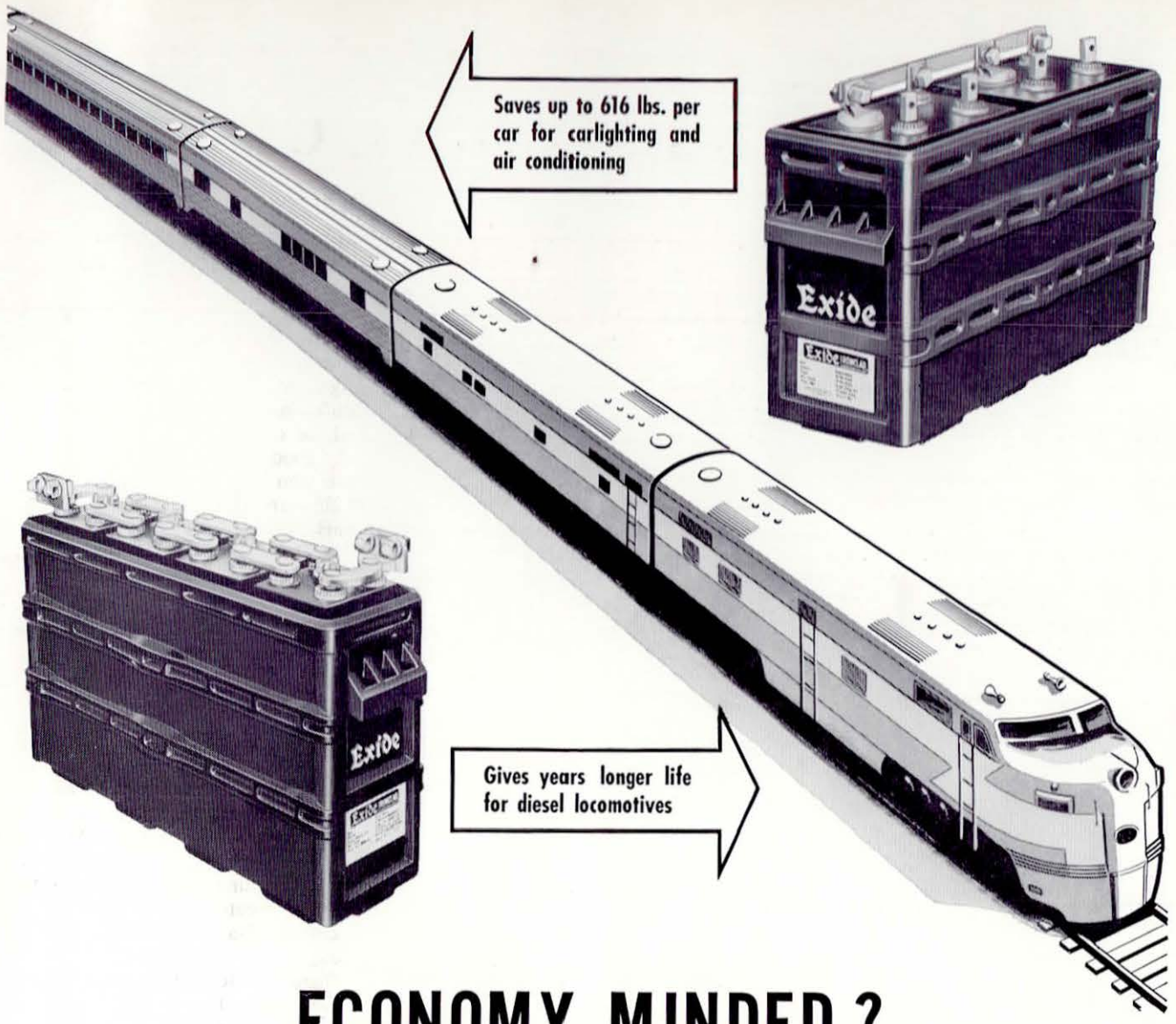
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Gives years longer life for diesel locomotives

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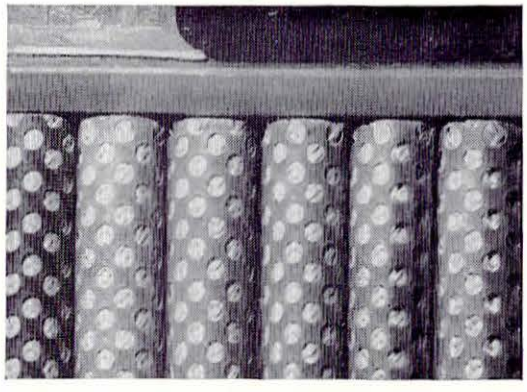

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Longer battery life in diesel locomotive applications means you save on battery replacements that don't have to be made. Exide-Ironclad Model MGD Batteries are designed to give you the power you need years after other batteries have failed. One size fits all locomotives.

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In Air Freight, It's Speed vs. Cost

Proposition

Transportation of freight by air is expected to reach three or four times its present volume by 1965; to approach 30 billion ton-miles and revenues of $4 billion by 1975. Thus, air freight appears to be a potentially serious competitor of surface transportation.

Questions

[The questions answered below are the final two in a two-part Poll on shipper opinion of air freight. The first four questions in the Poll were covered in Railway Age, May 30, p. 13.]

5) What advantages do you see in air freight?

Speed	**65**
Simplified packaging	**23**
Less loss or damage	**20**
Reduction in inventories	**15**
Over-all cost	**11**
Other	**12**

6) What disadvantages do you see in air freight?

Cost	**41**
Erratic service	**23**
Poor ground facilities	**15**
Size or weight limitations	**9**
Other	**3**

Speed (or the effect of speed) is the biggest, but not the only, advantage of air freight. Present cost is its biggest, but not its only, disadvantage.

Those statements represent the collective majority opinion of shippers replying to a two-part Traffic Poll on the potential of air freight. They explain also why traffic manager after traffic manager says his particular company currently uses air freight principally (or only) for shipments of an experimental, perishable, rush or emergency nature.

Looking to the future, a good many Poll respondents expect the cost disadvantage to be reduced as volume increases and new and larger planes become available for cargo service (RA, Jan. 4, p. 12). Others, however, seem to feel that air's speed advantage will diminish as volume grows—unless ground, terminal and connecting services are substantially improved.

Respondents who listed speed, simplified or less expensive packaging and reduction of loss and damage as major advantages did so, for the most part, without explanation. A good many, however, pointed out that these factors, singly or in combination, produce side benefits in the way of smaller inventories, fewer warehouses, faster turnover or extension of marketing areas. These advantages, in turn, they say, help to bring the over-all cost of air freight closer than actual charges would indicate to cost of surface transport.

"The main factor," to quote T. C. Hope, of Chicago, general traffic manager of Montgomery Ward & Co., "is the *effect* of speed. It permits lower inventories; creates faster turnover of goods; reduces or eliminates multiple warehouses." G. W. Albertson, GTM, F. W. Woolworth Co., New York, agrees. He says air's advantages are "speed, with resulting reduction in capital investment for stock, greater turnover and reduced space for storage of stock."

W. K. Cabot, GTM for Johnson & Johnson, New Brunswick, N.J., also mentions speed as permitting "reduction in inventory, especially important on high value products." So does H. E. Franklin, traffic manager of the Tacoma, Wash., Chamber of Commerce, who says "better inventory control, influenced by speed, is a big factor." E.A. Timm, transportation department manager of the St. Paul Area CofC, reaches the same goal by a different route with his suggestion that tighter inventory control will lead to increased use of air freight.

Lower warehousing costs (the principal "other" advantage in the tabulation of replies) were mentioned by several men beside Mr. Hope and Mr. Albertson. K. J. Whelan, traffic manager of the Upjohn Co., Kalamazoo, Mich., says, for example: "With greater speed . . . it may be that warehousing in some areas can be eliminated." R. B. Reedy, TM, Lubbock, Texas, Chamber of Commerce, is even more specific: "Many Lubbock shippers use air freight in lieu of warehousing."

Another advantage (though one not mentioned frequently enough for separate tabulation) is extension of marketing areas or compensation for geographical location. The Norton Co., distributing nationally from a New England plant, offers a case in point. "Our location makes it necessary, in many cases, to use air service," says Norton's general traffic manager, J. D. Dawson.

Shippers also recognize, however, that air freight, as presently operated, has a lot of "minus" factors.

Aside from cost, the biggest of these is erratic service, i.e., delays in transit resulting from bad weather, terminal congestion, missed connections, subordination of freight to passengers or mail, or other causes.

A good many shippers—including some who see many advantages in air freight—are pretty outspoken on these points.

"Service is sometimes erratic and uncertain," says R. A. Whitty, transportation director of the Belknap Hardware & Manufacturing Co., of Louisville, in a typical reply of that nature. "We have no assurance shipments will be forwarded the same day received." D. E. Ivins, traffic manager, Century Electric Co., St. Louis, mentions "too many daytime flights and not enough nighttime flights; passenger, mail and express priorities; lengthy transfers or connections." And J. B. Griffin, director of traffic of Scovill Manufacturing Co., Waterbury, Conn., sees "dependence on weather and availability of space" as disabilities offsetting advantages.

There are "too many interruptions in service," according to A. H. Petts, general traffic manager, American Hardware Corp., New Britain, Conn. Or, says C. A. Marves, Transportation department manager, Line Material Industries, Milwaukee, "no service due to grounding of planes on account of bad weather." R. J. Garrison, traffic manager, A. B. Dick Co., Chicago, lists seasonal backlogs and occasional misdirection at junction points. D. B. Goodwin, corporate traffic manager for Burroughs Corp., Detroit, calls attention to "lack of consistent delivery service to non-airport cities and lack of space during heavy shipping periods."

Ground facilities and services, in general, consume a lot of whatever time is saved in the air, in the opinion of some 15 Poll respondents. One of these is E. H. Tuthill, general traffic manager, Avon Products, Inc., Suffern, N.Y.: "Surface transport to and from airports can lose the time gained by use of airlines, unless a continuous movement exists and regular service is arranged." A. S. Daviau, traffic manager, Mennen Co., Morristown, N.J., voices much the

(*Continued on page 54*)

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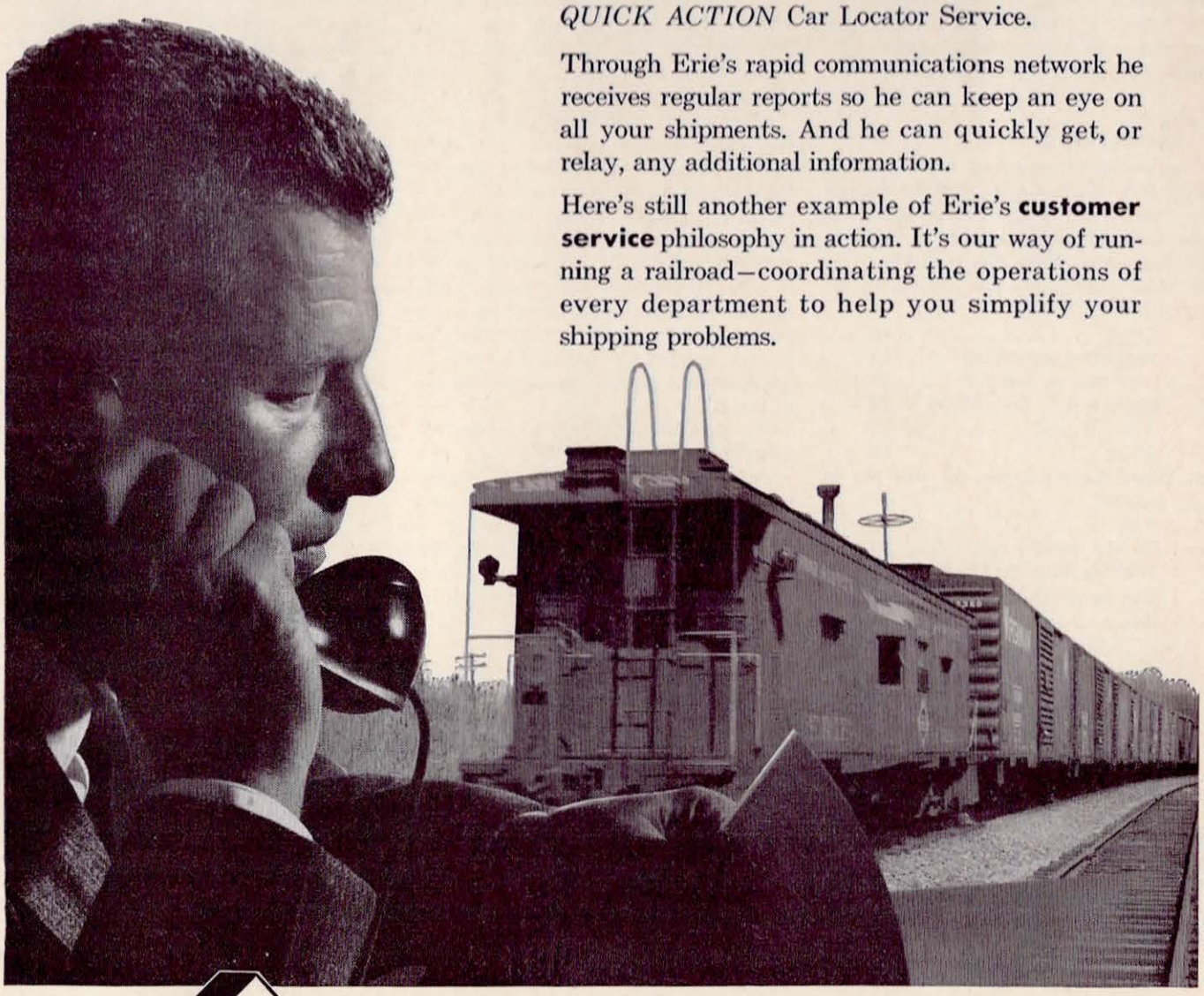

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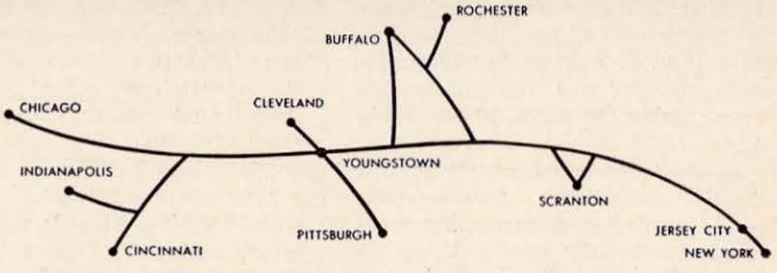

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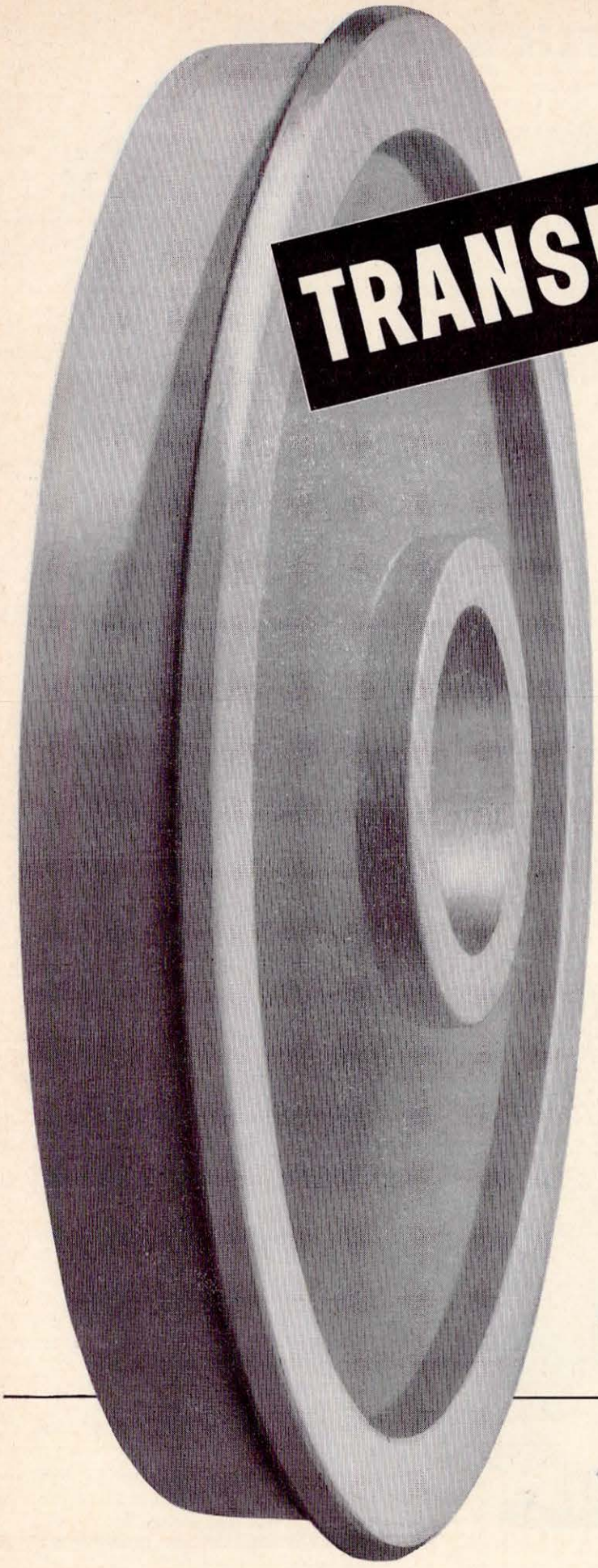

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THE ROUTE OF COURTEOUS SERVICE

Cost—Rail vs. Truck, Barge

By H. C. MURPHY

President—Chicago, Burlington & Quincy Railroad

Federal, state, and local governments have largely neutralized the efficiency of American railroads.

Russia has recognized the superior efficiency of rail transportation by making the Soviet rail network a vital part of its national "production line." But while Russia profits from railroad efficiency, our own railroads have been called "the outstanding unsubsidized 'sick man' of transportation."

The broad facts of the relative economy of the several kinds of transportation are generally known but, too often, are disregarded.

Most of the expense of highway and inland waterway carriers is direct expense, that is, directly related to volume of business. Much of a railroad's expense, however, continues in any event, because its fixed plant must be provided and maintained whether business volume goes up or down. Railroad property is privately owned and is subject to taxation and private maintenance. Highways and waterways, owned by government, are not.

While these facts are generally recognized, more precise information is needed to pinpoint the cost differences between various forms of transportation, and to ascertain their relative importance.

As a step toward getting such information, I have prepared the accompanying table. Its purpose is to compare the principal items of revenue and expense of several profitably operated barge and truck lines with the performance of the Burlington (which, as railroads go, is relatively profitable). It is not an attack upon truck and barge transportation but, rather, a statement of *facts* developed in a limited exploration of an interesting field.

All basic figures in the table were taken from reports to the Interstate Commerce Commission which are available to public inspection. These competitive carriers serve the same general area as the Burlington.

To place truck and barge data on a comparable basis with the railroad figures, some computations and derivations were necessary. They are explained in the footnotes to the table. For example, since the truck and barge lines are not engaged in the passenger business, all passenger revenues and expenses were removed from the railroad figures so as to show freight service data only. In showing "maintenance of way and structures expense" for the truck lines, the figures include their payments in the form of fuel taxes, license fees, etc., since truckers contend these are payments for roadway use.

H. C. MURPHY

What does this comparison reveal? Attention is invited to the bottom of the table, where appear figures under the heading "Ratio to Revenues." For maintenance of way and structures, the expense of the truck lines is shown as 7.25% of their operating revenues compared with a ratio of 12.65% for the railroad.

The truck figure of 7.25% includes actual maintenance of structures expense (0.96%) plus payments for license fees, ton-mile taxes and taxes on fuel, oil, tires, etc. (6.29%). Of course, no proof exists that these payments cover a fair proportion of highway maintenance costs. Moreover they are not "taxes" in the usual sense because they do not support local government and are spent primarily for the benefit of highway users. Such payments include no "tax equivalent" representing ad valorem property taxes, which truck lines would pay if they owned their right of way.

In the case of the barge lines, the composite ratio of maintenance of way expense is only 0.58% of revenue—compared to 12.65% for the railroad. Here it is entirely clear that the barge ratio bears no relation to the actual "way" expense of barge operation because the entire cost of maintaining channels and ancillary transportation service and facilities (navigation aids, locks, etc.) is borne by the Federal Government and is not reflected in the barge lines' expense figures. The small ratio figure of 0.58% results from some privately owned and maintained property, such as docks or shops.

This is one of the handicaps that will continue to plague railroads until truck and barge lines pay user charges which reflect true economic cost.

For the other items of operating expense (excluding maintenance of way), where government expenditures do not distort the comparison, the ratio figures (relation of expenses to revenues) reflect actual costs.

Maintenance of equipment expense of the railroad is 14.53% of freight revenue, 20.65% for the trucks, and 18.59% for the barges.

Railroad traffic expense is 1.88%, against 3.66% for the trucks and 2.94% for the barges.

The transportation ratio for the Burlington is 33.99%, compared with 58.59% for trucks and 51.74% for barges.

General expense ratio is 2.87% for the railroad, 5.01% for the trucks, and 5.88% for the barge lines.

The total freight operating ratio is

Freight Revenues, Expenses and Earnings of Burlington Railroad Compared with Those of 5 Profitable Truck Lines and 5 Profitable Barge Lines Serving Same General Area—Year 1958

(Money in Thousands)

	Items	Railroad	5 Truck Lines Composite	Truck Lines Per Cent of Railroad	5 Barge Lines Composite	Barge Lines Per Cent of Railroad	5 Barge and 5 Truck Lines Composite	Barge and Truck Lines Per Cent of Railroad
1.	Total Freight Revenue	$213,056	$187,958	88.22	$ 54,173	25.43	$242,132	113.65
2.	Net Operating Income (Railway, Truck or Barge)	26,691	7,172	26.87	8,762	32.83	15,934	59.70
3.	Net Income	23,544	4,813	20.44	4,915	20.88	9,728	41.32
4.	Net Income per $1 Freight Revenue	11.05¢	2.56¢	23.17	9.07¢	82.08	4.02¢	36.38
5. a.	Total Net Investment*	$631,103	$ 60,448	9.58	$ 66,494	10.54	$126,942	20.11
b.	Net Investment—Land and Structures*	487,888	11,057	2.27	2,556	0.52	13,613	2.79
c.	Net Income Per $1 Invested	3.73¢	7.96¢	213.40	7.39¢	198.12	7.66¢	205.36
6. a.	Property Taxes	$ 10,725	$ 847	7.90	$ 276.3	2.58	$ 1,123.3	10.47
b.	Property Taxes per $1 Freight Revenue	5.03¢	0.45¢	8.95	0.51¢	10.14	0.46¢	9.15
7. a.	Payroll Taxes	$ 6,234	$ 2,097	33.64	$ 328	5.26	$ 2,425	38.90
b.	Payroll Taxes per $1 Freight Revenue	2.93¢	1.11¢	37.88	0.61¢	20.82	1.00¢	34.13
8. a.	Federal Income Taxes	$ 25,507	$ 1,798	7.05	$ 2,513	9.85	$ 4,311	16.90
b.	Federal Income Taxes per $1 Freight Revenue	11.97¢	0.96¢	8.02	4.64¢	38.76	1.78¢	14.87
9. a.	Total Taxes	$ 42,466	$ 4,742	11.17	$ 3,117.3	7.34	$ 7,859	18.51
b.	Total Taxes per $1 Freight Revenue	19.93¢	2.52¢	12.64	5.75¢	28.85	3.24¢	16.26
10.	Total Payroll	$ 95,137	$ 95,401	100.28	$ 13,070	13.74	$108,471	114.02
11.	Number of Employees	17,227	15,068	87.47	2,191	12.72	17,259	100.19
		Ratio to Revenues %**						
	Maintenance of Way and Structures#	12.65	7.25†	57.31	0.58	4.58	5.66	44.74
	Maintenance of Equipment	14.53	20.65	142.12	18.59	127.94	20.16	138.75
	Traffic	1.88	3.66	194.68	2.94	156.38	3.49	185.64
	Transportation	33.99	58.59	172.37	51.74	152.22	56.96	167.58
	General	2.87	5.01	174.56	5.88	204.88	5.22	181.88
	Total	65.92	95.16	144.36	79.73	120.95	91.49	138.79
	Property Taxes	5.03	0.45	8.95	0.51	10.14	0.46	9.15

* After depreciation—Property devoted to freight service.

** Includes all operating revenues and expenses assigned to freight for railroad, and all operating revenues and expenses for truck and barge lines.

\# For truck lines includes maintenance of privately owned structures plus license fees, taxes on fuel, lubricating oil, tires and tonnage where applicable in lieu of maintenance of road.

† 0.96% in structures maintenance expense, 6.29% in license fees, fuel taxes, etc.

EXPLANATION OF ITEMS 1 TO 11 INCLUSIVE

Item 1. Annual Reports to I.C.C.

Item 2. Truck and Barge—Annual Reports to I.C.C. Railroad—Annual Report to I.C.C. Freight proportion on basis of I.C.C. formula

Item 3. Same as Item 2.

Item 4. Ratio of Item 3 to Item 1.

Item 5a. Truck and Barge—Annual Reports to I.C.C. Railroad—Annual Report to I.C.C., excluding property used exclusively in passenger service which could be eliminated if only freight service was performed, less Donations and Grants, and Depreciation and Amortization Reserves.

Item 5b. Same as Item 5a.

Item 5c. Ratio of Item 5a to Item 4.

Item 6a. Truck and Barge—Annual Reports to I.C.C. Railroad—Same apportionment as Item 5a.

Item 6b. Ratio Item 6a to Item 1.

Item 7a. Truck and Barge—Annual Reports to I.C.C. Railroad—Annual Report to I.C.C. Freight proportion on basis of I.C.C. formula.

Item 7b. Ratio of Item 7a to Item 1.

Item 8a. Truck and Barge—Annual Reports to I.C.C. Railroad—Annual Report to I.C.C. Recalculated on basis of freight operations using I.C.C. formula for expenses.

Item 8b. Ratio of Item 8a to Item 1.

Item 9a. Total of Items 6a, 7a and 8a.

Item 9b. Ratio of Item 9a to Item 1.

Item 10. Truck and Barge—Annual Reports to I.C.C. Railroad—Annual Report to I.C.C., on basis of freight apportionment of operating expenses under I.C.C. formula.

Item 11. Same as Item 10.

65.92% for the railroad, contrasted with 95.16% for the trucks and 79.73% for the barges.

In the area of property taxation, the railroad is heavily penalized, paying 5.03% of its freight revenue for taxes on property assignable to freight service. This compares with a ratio of approximately one-half of one per cent for both truck and barge lines (actually, 0.45¢ and 0.51¢ per freight revenue dollar).

There is no good economic reason why the tax contribution of a railroad to state and local governments should be 5.03% of its freight revenue, while only one-tenth of that ratio is exacted from truck and barge lines. These taxes help provide schools, police and fire protection, and other essential local services, and thus reduce the burden on all other taxpayers.

PROPERTY TAXES PER FREIGHT REVENUE DOLLAR

Burlington	5.03¢
Truck lines average	0.45¢
Barge lines average	0.51¢

Railroad payroll taxes, which are proportionately greater than those paid by rail competitors, present another competitive handicap. Such taxes are almost three times as great, in relation to each dollar of freight revenue, as those paid by barge and truck lines. The difference arises from the fact that railroad pensions and other employee benefits are, by law, more liberal and costly than those provided by Social Security, which are applicable to truck and barge line employees.

And while railroads pay such taxes for maintenance of way employees, those who perform similar work for the truck and barge lines are on the public payroll.

PAYROLL TAXES PER DOLLAR OF FREIGHT REVENUE

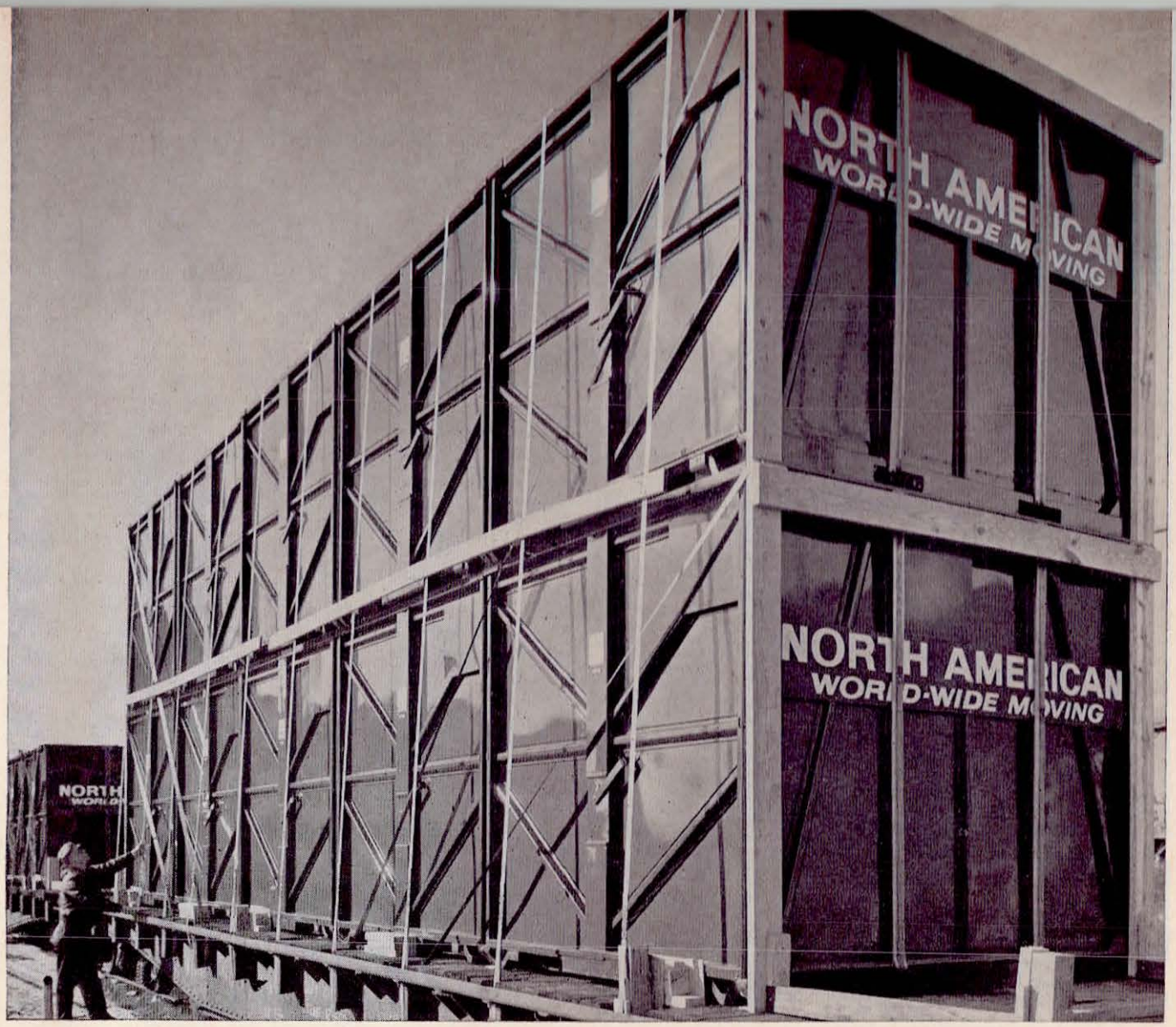
Burlington	2.93¢
Truck lines average	1.11¢
Barge lines average	0.61¢

The truck and barge lines had combined gross revenues almost 14% greater than those of the railroad (see top of table), but their "net operating income," as well as their "net income," was less than the railroad's, and their total investment is only 20% of the railroad's total investment.

The investment of government in highways and waterways is not included. If it were, total capital investment needed to provide for this volume of transportation by highway or river would be greater than the railroad's total investment in right-of-way and fixed plant.

The railroad uses a net investment

(*Continued on page 24*)



10,000-pound capacity container weighs only 1,670 pounds. Built by Highway Trailer Company, Stoughton, Wisconsin, using USS COR-TEN High-Strength, Low-Alloy Steel.

For all-purpose cargo containers, USS High-Strength Steels supply maximum strength with light weight

High strength steel offers the most economical strength-to-weight ratio of any material used for all-purpose cargo containers. And with USS COR-TEN High-Strength, Low-Alloy Steel, you get the *plus* values of high resistance to atmospheric corrosion, good toughness for resistance to shock and impact, and longer life for the paint job.

Cargo containers must take rough handling since they are used again and again. They need the extra strength and stiffness supplied by USS COR-TEN Steel's high yield point of 50,000 psi. This factor also permits substantial weight reduction with a resultant increase in payload.

Experience has shown that light weight *alone* is not enough for economical service. Containers like these shown have already made *twelve* round trips overseas with payloads both ways. Maintenance has been negligible and contents were protected against damage and pilfering. These containers have 348 cubic feet or 10,000 lb. capacity—about 6% more than their predecessors—and they weigh 300 pounds less, due to the use of USS COR-TEN Steel.

In marine, trucking and railroad container applications, USS COR-TEN Steel has proved highly satisfactory. For more information on USS COR-TEN Steel, write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

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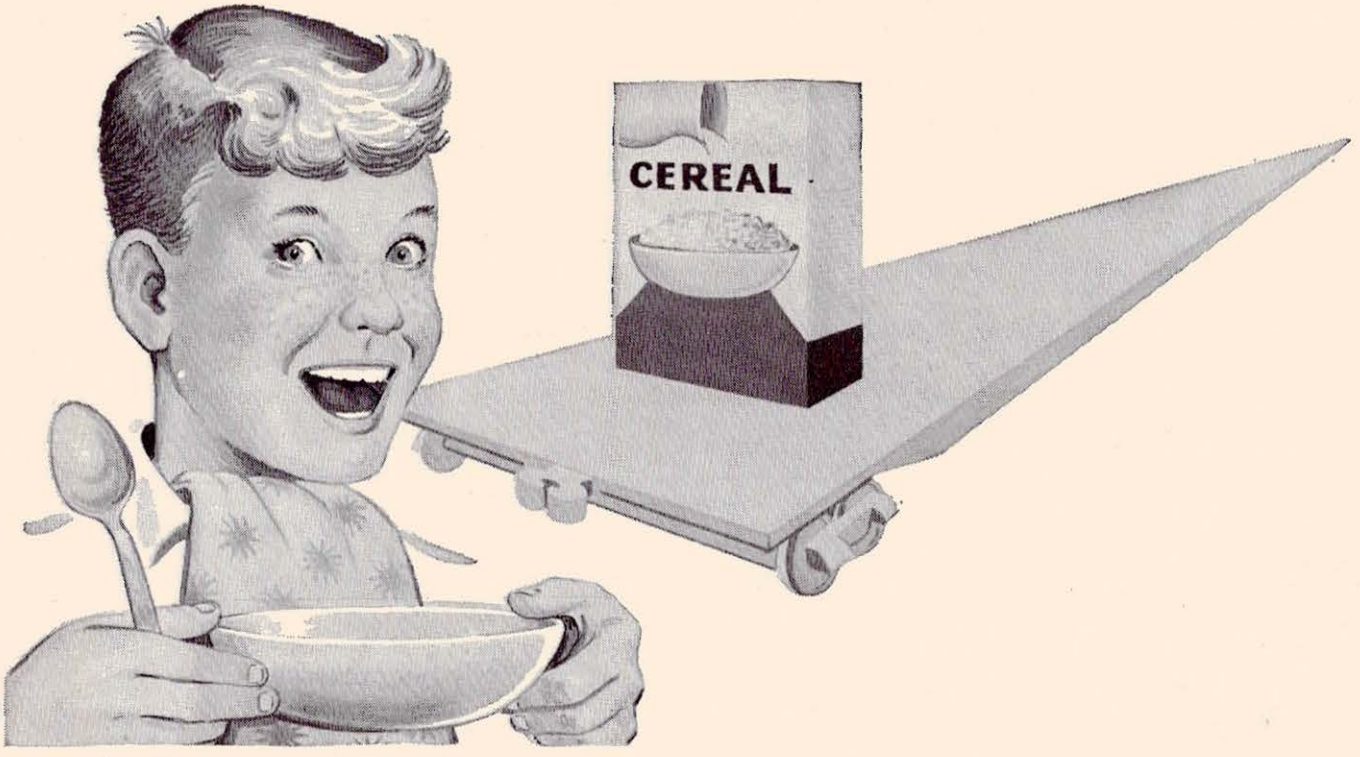

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COST—RAIL vs. TRUCK, BARGE (*Continued from page 21*)

in fixed plant devoted to freight service of almost $500 million (exclusive of motive power and rolling stock) to achieve a gross volume of freight transportation somewhat less, dollar-wise, than the barge and truck lines' total. Their private investment in fixed property is less than $14 million—not even 3% of the railroad investment.

The counterpart of this large private investment by the railroad is provided by government's (taxpayers') investment in highways and waterways.

The railroad has a much larger property investment to finance and replace than do truck and barge lines—a total of $631 million for the Burlington against $127 million for the truck and barge companies (truck, $60.5 million; barge, $66.5 million).

Attractiveness to investors (rate of return on investment) is of vital importance to the continued health and existence of the railroads.

It is significant that the railroad earned only 3.73% on its investment while the truck lines earned an average 7.96% and the barge lines an average 7.39%, despite the fact their operating ratios were substantially higher than the railroad's.

Transportation companies entirely dependent on private capital are thus able to offer investors less than half the earnings ratio shown by competitive companies which have most of their needed fixed plant investment provided by government.

To sum up: On those items where no government outlays are involved (maintenance of equipment, transportation, traffic, and general expense ratios), the railroad's showing is markedly better than its competitors.

Expense per Revenue Dollar

But the comparisons change, radically, when government enters the picture —as it does in items involving taxation and maintenance of way and fixed plant. All the following expense items are related to $1.00 of gross freight revenue.

(1) *Property taxes.* The railroad pays roughly ten times as much per dollar of freight revenue, as its competitors: Railroad, 5.03 cents; truck, 0.45 cents; barge, 0.51 cents.

(2) Income taxes. The railroad pays more than twelve times the truck average, and more than two and one-half times the barge average: Railroad, 11.97 cents; truck, 0.96 cents; barge, 4.64 cents.

(3) *Payroll taxes.* The railroad pays two and one-half times the truck average, and almost five times the barge average. Railroad, 2.93 cents; truck, 1.11 cents; barge, 0.61 cents.

(4) *Maintenance of Way and Structures.*

The railroad pays more than twelve times the average truck payment, and more than twenty times the average barge payment for such expenses. Railroad, 12.65 cents; truck, 0.96 cents; barge, 0.58 cents.

If truck payments for license fees, fuel taxes, etc., are included in this category—on the theory that they are used for road maintenance—the railroad still pays more than one and one-half times the truck average, and the barge comparisons remain unchanged. Railroad, 12.65 cents; truck; 7.25 cents; barge, 0.58 cents.

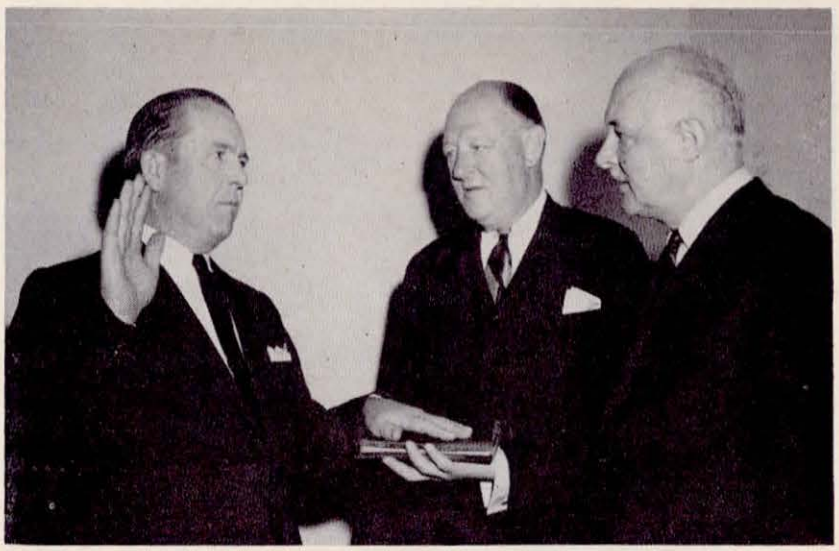
Finally, if we consider *all* taxes and *all* "maintenance of way and structures" (including truck license fees, fuel taxes, etc.) the railroad pays more than three times as much as the truck average, and more than five times the barge average. Railroad, 32.58 cents; truck, 9.77 cents; barge, 6.34 cents. This appears in detail in the table above.

TAXES AND RELATED COSTS PER DOLLAR OF FREIGHT REVENUE

	Property, Payroll, Income Taxes	Fees, Fuel Taxes, etc.	Maintenance of Way, Structures	TOTAL
Burlington	19.93¢	—	12.65¢	32.58¢
Truck average	2.52¢	6.29¢	.96¢	9.77¢
Barge average	5.76¢	—	.58¢	6.34¢

All the instances cited above, where railroad indexes are less favorable than those of barge and truck lines, have their origin in unequal taxation, fixed plant provision and maintenance, and "social security" for employees.

These differences in treatment explain why much of the country's freight traffic *growth* is going to other forms of transportation while rail freight volume remains stationary, or declines. In addition, these differences in treatment suggest that, with equitable treatment, railroads could provide better service at lower cost to their patrons, and at no cost to the taxpayer.



Newell Added to International Commission

PRR Vice President — Operations James P. Newell (left) was sworn in as a member of the United States National Commission in the Pan American Railway Congress when the group met in Washington recently. On hand to administer the oath of office in the commission, which officially represents the United States, was H. Charles Spruks (right), special assistant to the chief of protocol of the Department of State. Looking on was AAR President Daniel P. Loomis who is chairman of the commission. Other business of the meeting included planning U. S. participation in the Tenth Pan American Railway Congress, scheduled to be held in Brazil in October. Sponsor of the Congress is the Pan American Railway Congress Association, a permanent international group dedicated to advancement of railroads in this hemisphere.

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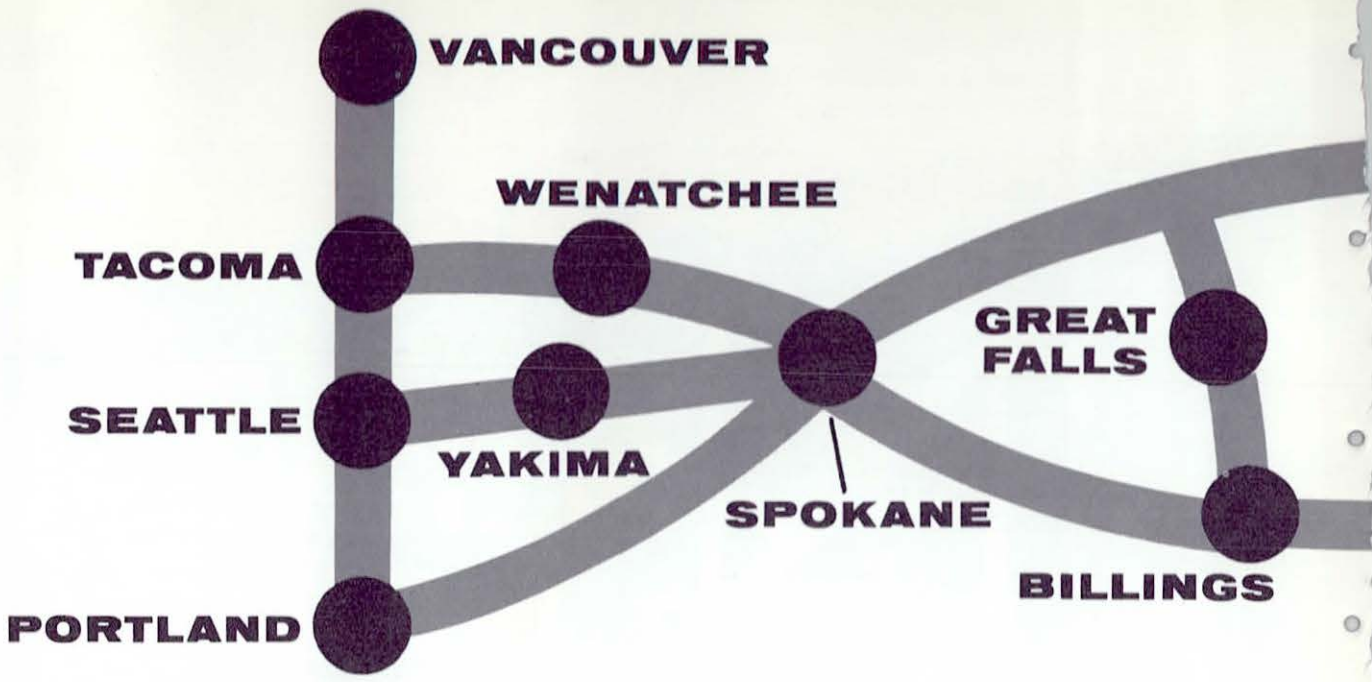

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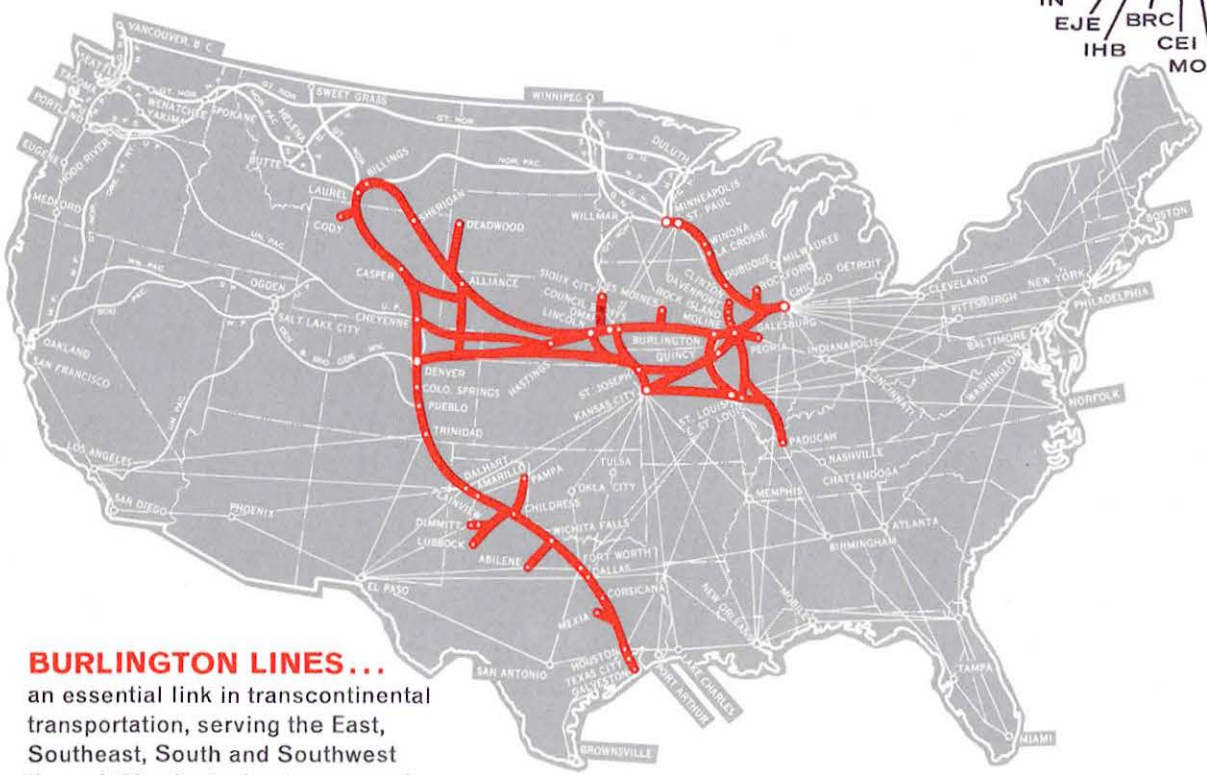

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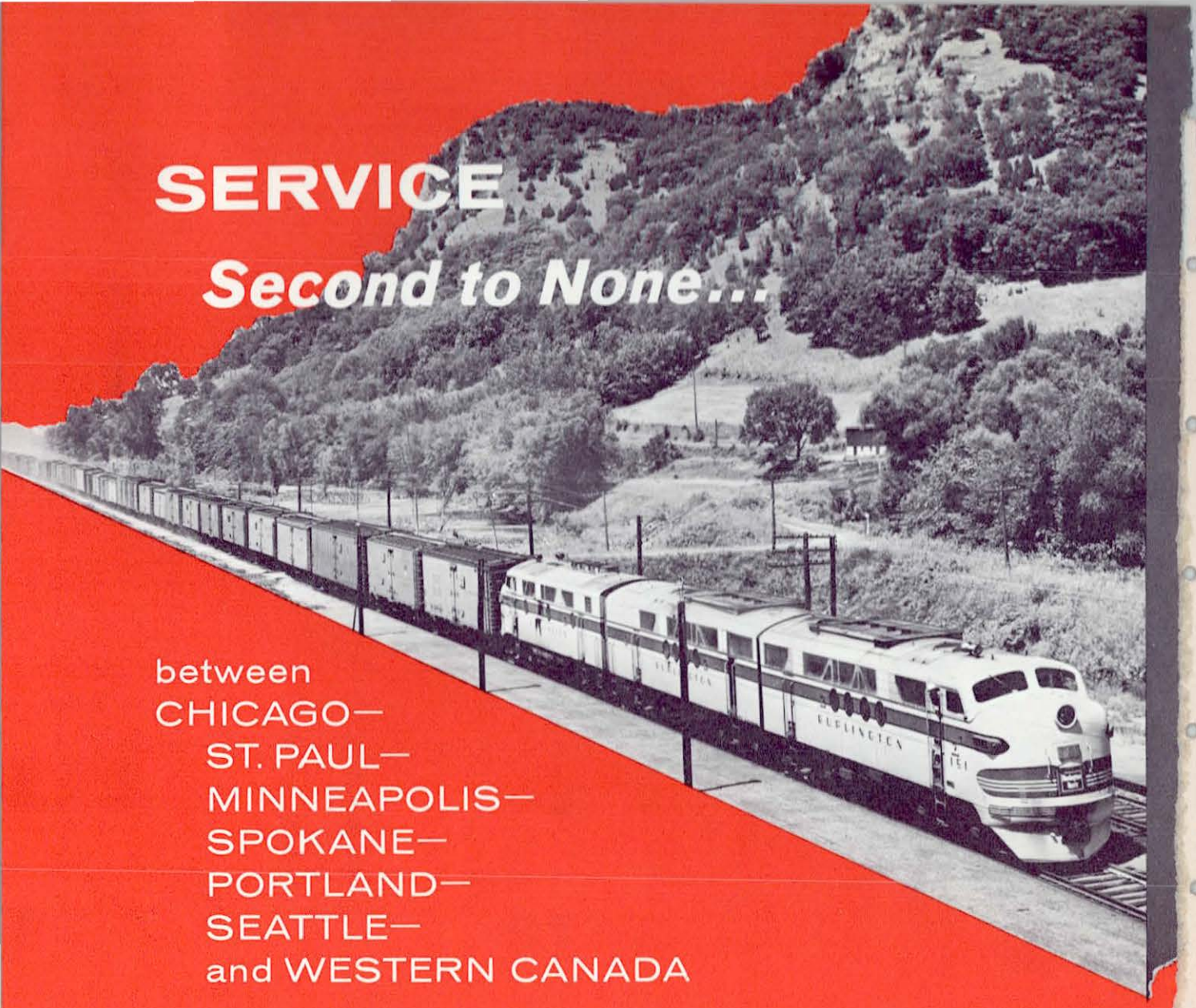

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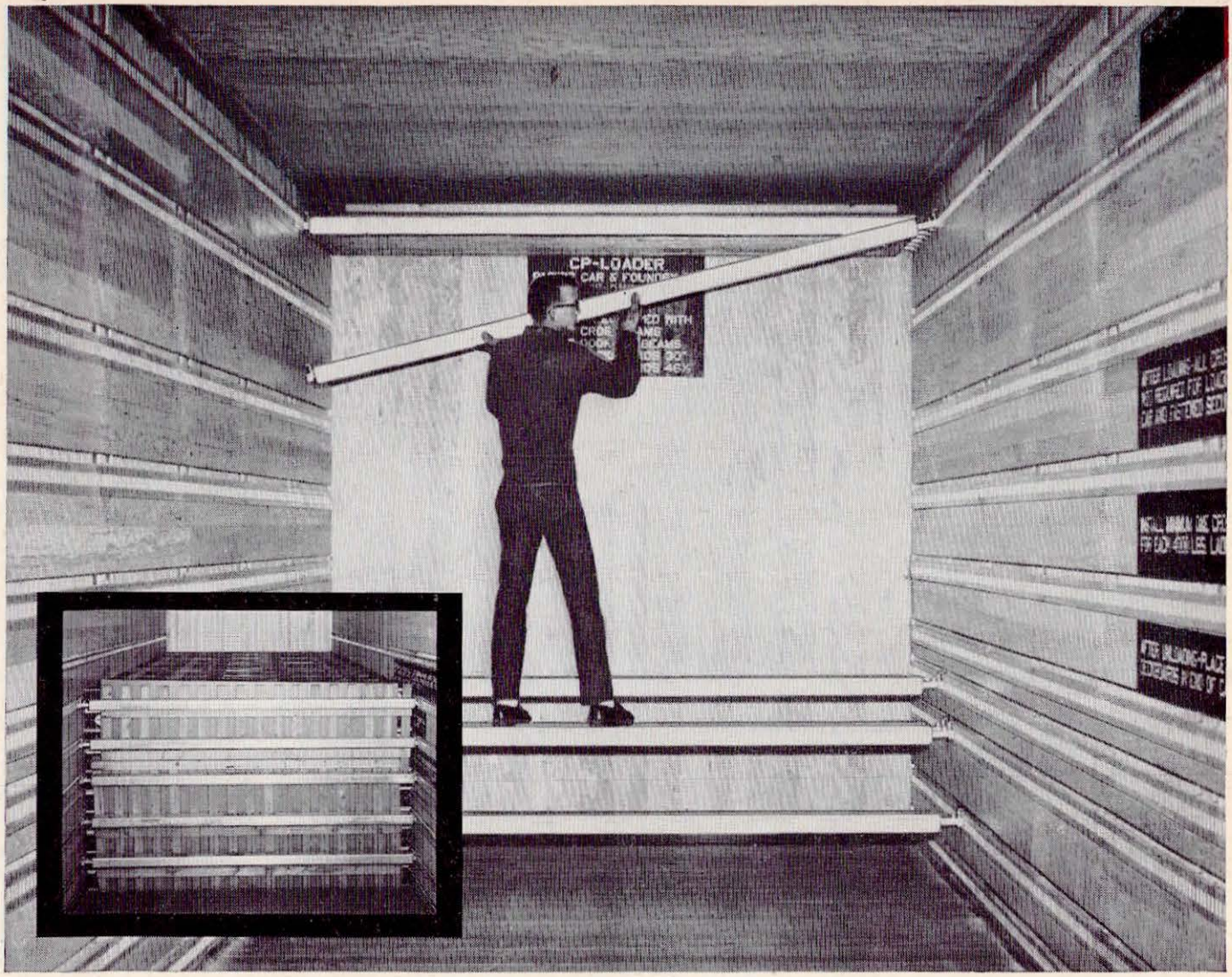

Why Car-Pac Crossmembers are Aluminum:

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Pacific Car & Foundry Co. is now offering crossmembers made of aluminum, Reynolds Aluminum —to provide some new and important advantages for both railroads and shippers.

First, the Car-Pac aluminum crossmembers will provide savings for the railroad. Extensive testing showed that lightweight aluminum offers the highest strength-to-weight ratio of any practical material. The aluminum crossmember has a greater load carrying capacity than ordinary wood and steel members. This means fewer crossmembers per car.

The shipper and receiver will enjoy better service with these new crossmembers. One man can handle a Car-Pac aluminum crossmember easily, so loading is faster and more efficient. Loads can be blocked more effectively, so freight damage is reduced.

Car-Pac crossmembers, because they're aluminum, can't rust, won't stain or soil freight. Aluminum won't rot or splinter; the crossmembers serve longer with less maintenance, and are safer to handle.

The reason behind Car-Pac's selection of *Reynolds* for the metal and the development assistance for its new aluminum crossmember is significant, too. To quote a Pacific Car official, Reynolds was chosen "because of its proven leadership in the application of lightweight metals to the manufacture of railroad car components."

For details on aluminum crossmembers, or on aluminum for any railroad use, take advantage of this leadership. Contact your local Reynolds office, or write *Reynolds Metals Company, P. O. Box 2346-TM, Richmond 18, Virginia.*

REYNOLDS ALUMINUM

Watch Reynolds TV Shows: "Bourbon Street Beat" and "Adventures in Paradise"; and, resuming in October, "All Star Golf"—ABC-TV

FIGURES ON RECAPTURED TRAFFIC make good reading to J. E. Gilliland. Of a potential $7,500,000 in annual revenues which Frisco's Rate Department Report program has turned up, the road has published rates and moved traffic with an annual revenue value of $2,500,000.

How the Frisco Puts New Stress On Its Sales

► **The Story at a Glance: If consistent and intensive training can make good salesmen better, Frisco's competitors face rough going in the years ahead.**

In the five years since J. E. Gilliland became traffic vice president, almost every phase of traffic effort has gone through a modernization and upgrading —all intended to further Frisco's idea of its corporate objective: "To obtain the maximum amount of profitable freight in competition with other forms of transportation, as well as with competitive railroads."

Currently, the emphasis is on a sales education program which will run, as now scheduled, well into next year. It's designed to make every Frisco salesman, on- and off-line, fully familiar with every Frisco facility and service—from hump yards and special equipment to freight rates and damage prevention.

Frisco is better than half-way through an eight-point program aimed at bringing its traffic effort up to—and in some instances ahead of—present-day thinking on traffic management.

Improvements in the organization itself are largely past. So is the firming up of a wide-ranging traffic research program. Rate and profit analysis work is well advanced—to a point where Frisco counts in the millions of dollars the value of traffic regained through concentrated and coordinated sales and rate effort. Now a sales control system has been placed in operation and Frisco is stepping up its sales educational programs.

Three other sales-related objectives—greater sales promotion, establishment of a sales budgeting system and creation of a sales incentive plan—are tabbed for future attention.

Right now, Frisco salesmen are in the midst of a series of classes on terminal facilities and operations. Tulsa

(*Continued on page 34*)

EMPHASIS ON TRAINING brings these Frisco salesmen into St. Louis conference room for class once a month. Similar sessions are held monthly at 21 other locations for on- and off-line salesmen.

BEST EQUIPPED TO SERVE YOU BEST!

How Mobil works to help railroads cut maintenance time . . . reduce maintenance costs

In more ways than ever, Mobil helps today's railroads solve maintenance problems. Top-quality Mobil products and superior technical assistance are always at your service. And now, with the introduction of two unique devices—a time-saving diesel engine analyzer and the trouble-saving Mobil Fotoscope—work will be faster and easier for railroad maintenance personnel.

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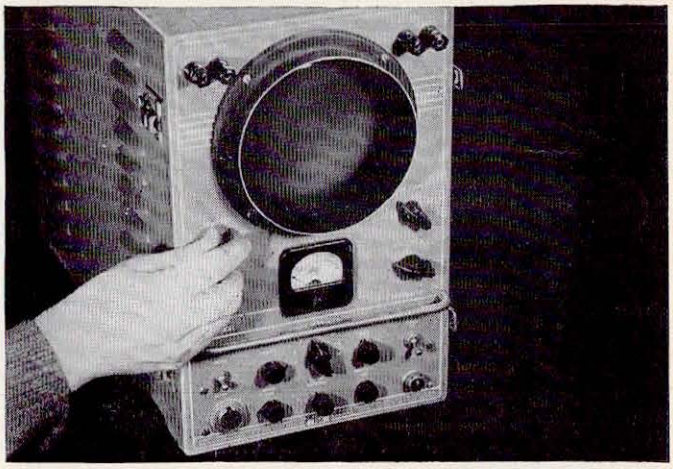
3. SPECIAL PERSONAL SERVICE—Mobil laboratories assist railroad men with specific problems involving application of products.

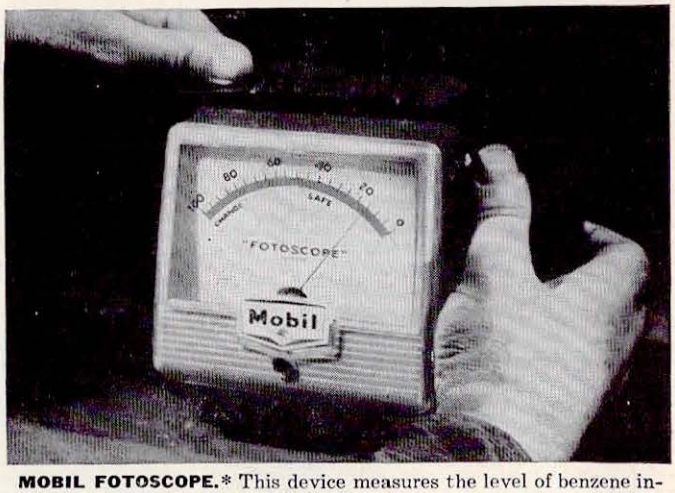
4. ENGINEERING ASSISTANCE—Mobil service men average over 25 years' experience. These men understand not only petroleum products, but the railroad business, as well.

5. TECHNICAL INFORMATION—Mobil freely distributes technical data to interested railroad personnel. Both the pros and cons of problems are thoroughly and frankly presented.

6. SUPPLY POINTS—Strategic locations of 13 refineries and 20 product compounding plants provide convenient supply points.



DIESEL ENGINE ANALYZER. This new instrument, presently under field test, is designed to provide all necessary information for not just one, but eight cylinder patterns at the same time, indicating fuel injection timing and cylinder pressures in relation to piston position. Greatly speeds up the work of engine trouble-shooting.



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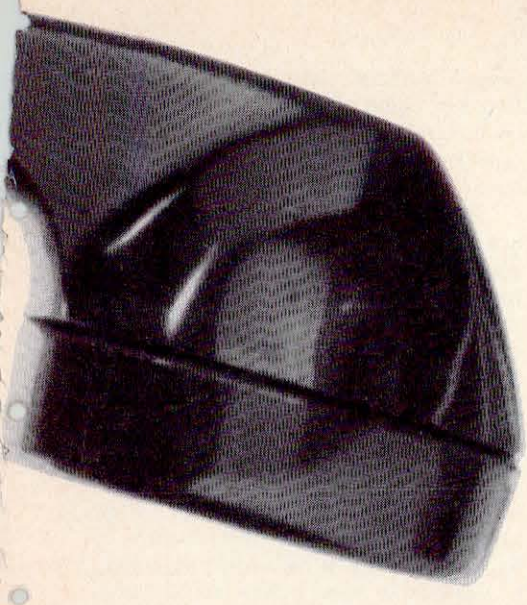

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SOUTHERN RAILWAY SYSTEM

THE SOUTHERN SR SERVES THE SOUTH

FRISCO PUTS NEW STRESS ON SALES (*Continued from page 30*)

and Springfield, Mo., were covered in June; Kansas City and Fort Worth will be treated in September; St. Louis and Dallas-Irving in October. After an all-terminal review in November, classes will move on to industrial development in December; free time and demurrage in January 1961; and sales fundamentals in February.

The complete list of topics includes TOFC, foreign trade, split delivery, transloading, forwarder traffic, merchandise traffic, tracing-diversion-reconsignment, equipment, freight rates, claims and damage prevention.

Based on texts already completed, these subjects will get no once-over-lightly treatment. The foreign trade book alone is about an inch thick. The text on terminal facilities and operations, more than 80 pages long, covers only three of the eight terminal districts which will be included.

The end result of the program will be creation of a permanent, up-to-date library—and formation of a sales force with encyclopedic knowledge of what the railroad can do for its customers.

Classes are held once monthly in 22 locations—each city a central point for two or three or more of Frisco's 60 sales offices. In the beginning, agency heads are taking the role of "professor." As the program continues, leadership will rotate among salesmen attending the classes.

Texts are prepared by a director of sales training and definite assignments are made for each session. The director also provides class instructors with a list of questions—and, in turn, stands ready to provide answers to questions raised during class periods by the "students."

Frisco thinks training "should be a permanent sort of thing," Jack Gilliland comments, "but you can be eaten up alive by lost man hours and expense" without decentralized instruction. Grouping of the 60 agencies at 22 centers solved that problem. Then the question became one of "what to teach?"

"We arbitrarily said that all our men are qualified salesmen, qualified as to personality and appearance and so forth. So we asked them what they wanted. And they told us—more about our product and how to sell it. That's what we're giving them."

And the sales force's response so far? "Very enthusiastic."

These monthly meetings are Frisco's most extensive approach to sales education—but they aren't the first. Some months ago, the road held sessions in St. Louis with a two-fold objective: to emphasize how Frisco could counter truck competition and thus clear away any defeatist attitude among salesmen; and to make the sales force itself more helpful to the rate department.

Meetings Were Successful

On the showing to date, the meetings were a success. Out of those discussions grew hard-hitting and effective use of the so-called Rate Department Report—in effect, an "order blank" for rail transportation, and the basic method which Frisco uses to obtain from salesmen the information necessary for establishment of competitive rates.

Field forces responded eagerly—so much so that for a time ratemen were hard-pressed to keep up with steady flow of incoming reports. Since then, RDR utilization has leveled off—about 20 reports can be expected monthly.

RDR is a simple tool—just a report, basically, on traffic Frisco isn't handling but could handle, and the reasons why it's moving adversely. But it tells the rate department what adjustments have to be made to return the business to the rails. To date, RDR has uncovered about $7,500,00 worth of recapturable business. Of this potential, Frisco has published rates and actually moved traffic with a revenue value of about $2,500,000 annually.

RDR, of course, isn't the only angle Frisco is playing. Research is steadily increasing in its value to the organization—including the research behind revenue forecasts that were accurate within 1.7% in 1958 and within a fantastic one-tenth of one per cent in 1959.

Walter H. Cramer, Jr., director of traffic research, cheerfully admits that

(*Continued on page 37*)

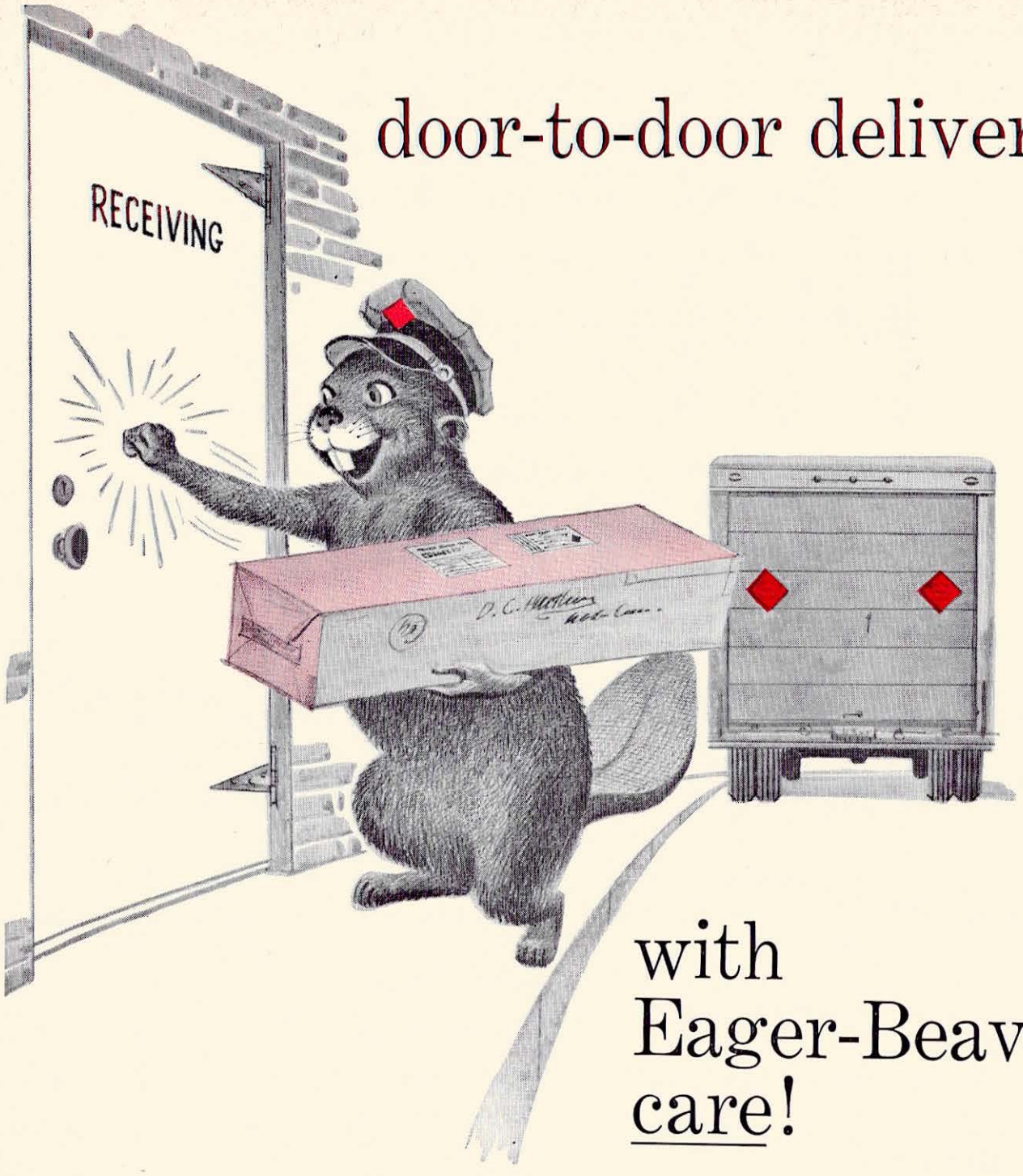
Effective Salesmanship, Frisco Fashion

● Window glass, moving from an on-track shipper in Oklahoma to an off-track receiver in Minnesota, had moved regularly in box car service. The motor carrier rate was two cents higher than rail rate. But, taking into account cost of transferring glass from team track to consignee's plant plus unloading, final cost to customer via motor carrier was at least 10½ cents lower than rail rate, or $84 lower on 80,000 lb. Frisco's action: Publication of a competitive TOFC rate. Result: Traffic—producing gross revenues of more than $5,000 annually—returned to the rails, via piggyback.

● A manufacturer of large rock-crushing machinery was exporting through a port not served by Frisco. But shipments had to be unloaded from flat car onto lighter or barge and then loaded onto ocean vessel. Method of handling involved additional time and expense and exposed shipment to added risk of damage. Frisco proposed shipment via Mobile, where marginal tracks permitted direct loading from flat car to ship. Photos, of the Mobile port facilities and of an actual shipment of machinery being loaded, clinched the sale. Result: Shipper now favors the port of Mobile wherever consistent with sailings, and Frisco-AT&N gets the haul from point of origin to port.

● A gas range manufacturer shipped his product (crated at point of origin) through a non-Frisco port. But overseas carrier rejected original cartons, required repacking and recrating for export movement. Frisco obtained necessary information on ranges and secured a price on crating at Mobile from the Alabama State Docks. Data showed that ranges could be packed and crated to meet export specifications for about $2 less per crate than it cost at point of origin. Result: All the shipper's export tonnage now moves via Frisco-AT&N to Mobile.

door-to-door delivery



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Specialists in railroad cleaning products

the '59 prediction may have been "too accurate" to serve as a norm for judging future performance. But he contends that rail revenue forecasting remains a relatively simple task—on the Frisco it starts with predictions on gross national product and industrial production, adds crop and industrial development data and then stirs in a computed factor on the trend of increasing truck activity. The result has been a remarkably accurate forecast—which, for 1960, sees an increase of 2-3% over 1959 revenues.

Over the past six months, the department has concerned itself primarily with pure market research. But over the past few years, it's had a hand in a variety of activities—trouble-shooting rate-making weaknesses and formulating cures; analyzing sales operations to improve organization and performance; making surveys to aid the industrial development department; and working out a "commodity manager" program with a double purpose.

As it's projected, this plan will work through a "manager" who will be assigned a given commodity or commodity group. It's his responsibility to develop all available information about the commodity; to devise ways (based on research) to regain traffic or develop new business through considerations of rates, service, sales or equipment; and then to coordinate new policies with the departments concerned. A second objective of the program will be to train prospective rate and sales officers through two or three years' experience in the research field.

Seventeen Commodity Groups

Thus far, the commodity manager principle has been developed most fully in the rate department, where Frisco took a regional organization and regrouped it on a commodity basis. Seventeen commodity groups have been established, each under a manager. Efficiency and consistency (particularly in handling rate matters with various regional rate bureaus) have been the principal benefits from the system.

The problem of officer development, especially in the rate department, is getting keen attention. It has to—over the next few years, Frisco will lose a half dozen of its top rate men through retirement. Down through the department, numerous promotions will have to be made just because of these retirements and the chain-reaction effects of promotion at the top.

Over on the service front, performance is improving steadily, with sales, rates and operations working closely together. One indication: The new through-schedule theory which Frisco placed in operation last January 2 gave it definite, uncomplicated service to sell—and the operating department is backing the salesmen with performance. All Frisco salesmen now go armed with operating data sheets which give full detail on all through trains—cutoff times, train makeup, schedules, blocking, connecting schedules, intermediate work scheduled. And, according to J. W. Tipton, general manager—sales, "the operating people adhere to the data sheets without exception . . . I think this gives us the closest thing to quality control any railroad has, as to expected freight train performance."

The Results Pay Off

Results make Jack Gilliland's overall programming look good (even without mentioning Frisco's booming business in automobile transport, which developed revenues of $1,571,000 from one assembly plant alone during the first four months of 1960).

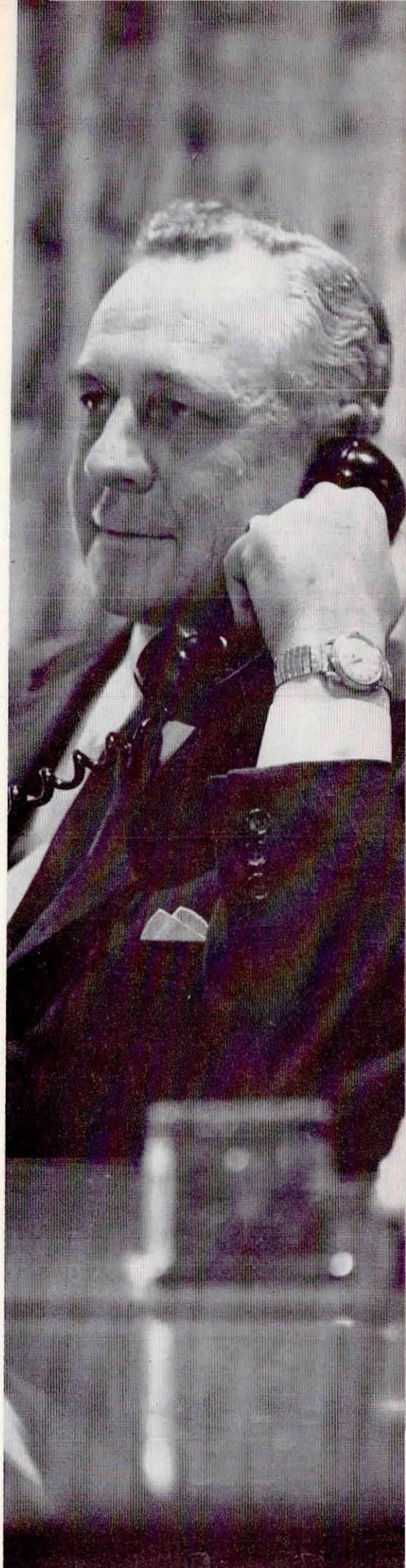
The road has consistently aimed at high-rated traffic—loadings actually haven't picked up, but revenues have done nicely: $170.32 average revenue per car in March 1960, compared with just $145 per car about two and a half years ago.

And Frisco posted the increased average without rate increases.

"We're not just looking for volume," comments E. G. Kreyling, Jr., assistant general freight traffic manager. "We're looking for good sound moves . . . and we're going heavily for incentive rates." Among the moves in that category: Development, with Pullman-Standard, of the tri-level automobile flat car capable of handling 12 standard or 15 compact cars; and research, now in progress, on the potential in increasing car capacity through installation of heavy-duty trucks.

Skill of a Juggler

Through it all, Jack Gilliland (since 1958 vice president, traffic and industrial development) has moved with the skill of a juggler, getting one program in the air and under control, then sending another one up. Both eyes are always on the main objective: to obtain the maximum amount of profitable freight in competition with other forms of transportation, as well as with competitive railroads.



NYC, C&EI Ask Roles in C&O Plan

The New York Central and Chicago & Eastern Illinois want to become parties to the Chesapeake & Ohio's plan for acquiring control of the Baltimore & Ohio. The plan is before the ICC in applications filed by C&O (RA, June 20, p. 9).

Last week Central filed a petition with the Commission for leave to intervene in the case. And President David O. Mathews of the C&EI announced he would ask that road's board of directors for authority to file a like petition. The board was scheduled to hold a special meeting June 24, the same day for which a previously-scheduled meeting of the NYC board was set.

A proposed offer to be made to B&O stockholders was to be discussed at the NYC meeting, according to President Alfred E. Perlman. Before it got the intervention petition, the ICC had received from NYC another petition proposing a general Commission investigation aimed at establishing ground rules for railroad mergers in the East.

The intervening petition said C&O's proposal, if approved, would "seriously and adversely" affect Central. NYC went on to assert that the proposal "is not consistent with the public interest," and that the public interest would be adversely affected if the proposal were approved without inclusion of Central "on equitable terms."

President Mathews of C&EI said his road, for its own survival, wanted to be party to any merger that might result between C&O and B&O. Failing this, he suggested the government might acquire C&EI properties and hold them until it could determine where they fit in the general railroad picture.

Mr. Mathews anticipated that C&EI and many other small roads may be confronted with serious problems "as a result of the pending massive mergers." He warned that "a string of receiverships among the smaller railroads could conceivably undermine the entire railroad industry.

"The only practical alternative to including the small railroads in these proposed combinations at the outset is for the government to acquire them."

Under the Interstate Commerce Act's Section 5(2), which is the basis of C&O's application, the ICC has power to require inclusion of other railroads as a prerequisite to its approval of a merger or acquisition-of-control proposal. The act states:

"The Commission shall have authority in the case of a proposed transaction under this paragraph involving a railroad or railroads, as a prerequisite to its approval of the proposed transaction, to require, upon equitable terms, the inclusion of another railroad or other railroads in the territory involved, upon petition of such railroad or railroads requesting such inclusion and upon a finding that such inclusion is consistent with the public interest."

Railroading After Hours with Jim Lyne

PROF UNFRIENDLY?—I observed here recently that Professor Barloon of Western Reserve University seemed to have it in for the railroads—in the kind of public testimony he has given, opposing greater freedom in railroad rate-making and against allowing railroads to "diversify" into other types of transportation.

A student of Professor Barloon's—J. W. Vigrass—has written me a long letter, vigorously defending the kind of instruction Mr. Barloon gives to his students. In his academic work, from what Mr. Vigrass tells me, the professor's elucidation of transportation economics is scrupulously fair and objective. It speaks well of a teacher, that he should not permit partisan opinions he may hold outside the classroom, to be reflected in his teaching.

It was Professor Barloon's public writings and public testimony—not his academic work so ably defended by Mr. Vigrass—that formed my impression of his attitude toward the railroads. That record still stands.

WHAT'S IN A NAME?—There are some important words inaccurately used in the railroad business. One of them is to designate a ticket as "transportation"—as, for instance, the sign on train gates in some stations, to the effect that passengers must show their "transportation" before boarding trains.

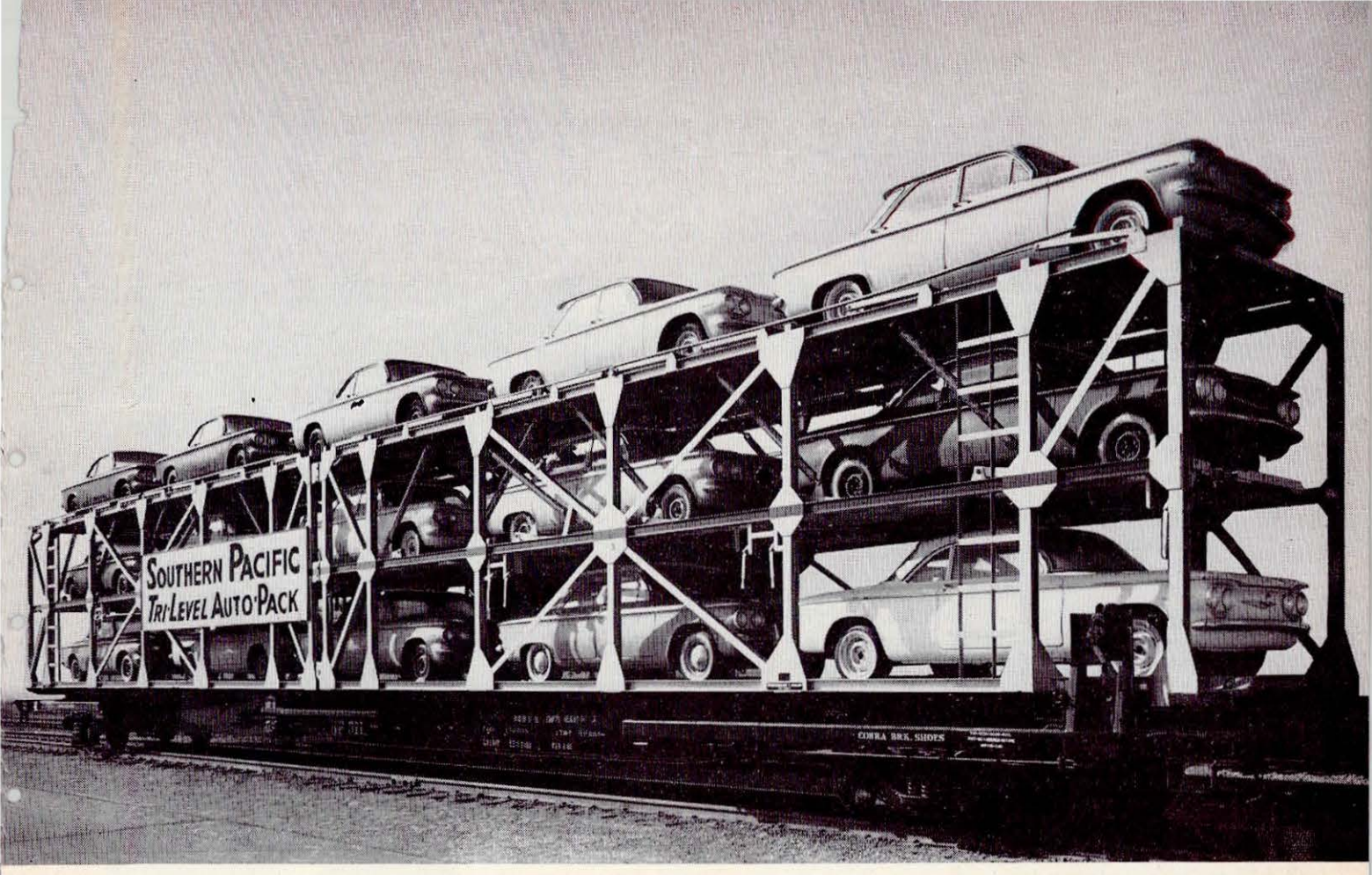
Why is it that mediators and government agencies involved in wage cases practically always use the term "employees" when what they mean is "union officers?" For example, they say "employees" insist on this or that, or agree to this or that, when actual employees have no part in the proceedings. Sometimes railroad management people in these negotiations follow the same practice.

BAD NAMES DO DAMAGE—Some people believe that terms are not important—but the Commies have made a lot of hay for themselves by constantly calling Americans "imperialists" and themselves "democratic forces." And some publicity expert did a great job for the truckers when he put the label of "Balkanization" on varying state laws on maximum truck weight.

It was a happy day for railroad progress when the "push-button yard" overtook the "retarder yard" (since, to the minds of the uninitiated, something that retards movement isn't necessarily desirable).

MORALE—GOOD OR POOR?—I've been looking over the tabulation on a highly interesting inquiry the Superintendents' Association has made, into employee morale and kindred questions. Most replies from union officers reported morale as poor. To improve morale they suggested (a) more stable employment; (b) recognizing employees as a part of the railroad family (not just another statistic); (c) more attention to improving railroad service.

Most of the replies from supervisory people, on the other hand, rated employee morale as pretty good.



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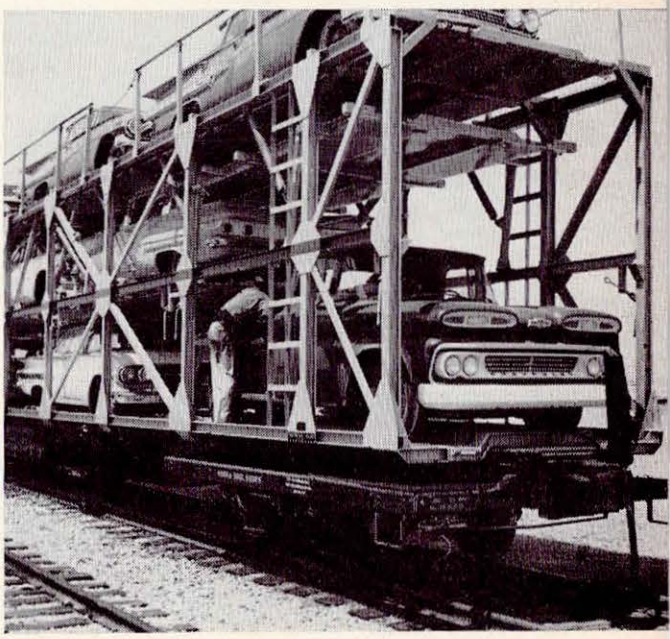
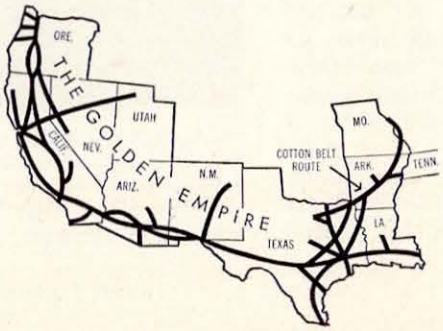
This is the most flexible rail car built today for carrying automobiles and trucks. Its three 84-ft.-long floors can accommodate 15 compact or 12 standard passenger cars... and a unique S.P. design feature permits raising the Auto-Pack's second floor *by sections* to make room for combined loads of automobiles and trucks.

The new Tri-Level Auto-Pack is an example of Southern Pacific's close cooperation with both shippers and rail car builders to provide new equipment for efficient, modern transportation.



Adjustable second-floor sections make room for combination loads of trucks and autos.



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Maintenance: More for the Money

► **The Story at a Glance: Increased activity in competitive forms of transportation and rising costs of labor and materials for railroad maintenance pose pressing problems for railroad maintenance officers. They all stem from the question: "How to get the most value from the maintenance dollar?"**

To answer this, other questions must be propounded. At what standard is it necessary to maintain physical properties? What influence does traffic, location and management requirements have on establishing standards?

Since planning is essential for maintaining standards, for how many years in advance should maintenance programs be projected? Is long-range planning beneficial or a waste of time? How does mechanization fit into this picture?

After establishing maintenance programming, how is the program carried out and how is it controlled?

To learn the answers, top railroad engineering and maintenance officers got together to discuss these questions at a two-day RSPA seminar in Chicago.

"Intelligent programming is the key to earning a satisfactory return on investment. A facility can be over-maintained, resulting in a waste of funds. Conversely, a facility can be under-maintained, resulting in unwise protection of investment."

On this note, F. L. Etchison, chief engineer of the Western Maryland, set the pattern for the two-day seminar sponsored by the Railway Systems & Procedures Association in Chicago, June 6-7. Purpose of the meeting was to get at the answers to some of the questions related to railroad maintenance programming.

The subject was divided into three phases. Mr. Etchison spoke on the factors which determine the standard of maintenance for the individual railroad property. The second phase dealt with long-range planning of maintenance operations. This was presented by D. L. Jerman, chief engineer, Pittsburgh & West Virginia. The third phase, dealing with the control of maintenance programs, was explained by C. J. Henry, chief engineer, Pennsylvania. Presiding as chairman was D. T. Faries, chief engineer, Bessemer & Lake Erie.

Realistic Standards Needed

The budget, said Mr. Etchison, offers the best means of planning expenditures and it becomes the yardstick whereby such expenditures can be controlled. However, a prerequisite for maintenance planning is the establishment of realistic maintenance standards. The latter, he added, are contingent upon the continued availability of funds.

Standards of maintenance, Mr. Etchison said, should be set at a level to insure speedy and safe operation—yet segments of the same railroad have different standards of maintenance. Properties must be maintained, he said, with the expected traffic and utilization in mind. This looking ahead, in his view, is neither overmaintenance nor wishful thinking, but is sound logic.

Materials are one of the chief ingredients of maintenance, said Mr. Etchison, and play the leading role in the establishment of a standard. Past experience in the use of specific items and the established standards of the American Railway Engineering Association serve as excellent guides, he said.

Convincing Management

Mr. Etchison noted that management seldom insists that not enough is being spent for maintenance. But, he went on, maintenance officers must be able to convince management that the adopted standards must be maintained. Also, they must make their managements understand that, while they seldom hesitate in authorizing expenditures for machines for mechanizing some work, machines wear out and must be replaced for continuing economies.

In the discussion which followed this address, some maintenance officers stated that they had set up long-range programs for tie renewals, ballasting, and rail replacement for as much as five years ahead. Such programs were based upon long-range forecasts made of expected revenue by other departments. It was emphasized that these programs are plans only, but they serve to point the direction for maintenance expenditures.

It was brought out further that the long-range programs are subject to review annually and are adjusted upward or downward to conform with actual revenues. To provide for the eventuality of having to adjust downward, some roads assign an order of preference, such as "A," "B," "C" and "D," to jobs when budgets are made up. Hence, the "C" and "D" items can be cut off to make a downward adjustment. Other roads cut down on the improvement projects.

In discussing the next phase—long-range planning—Mr. Jerman said that by long-range, he means five years.

In years past, said Mr. Jerman, with its abundance of labor and suppliers, a full maintenance program could be inaugurated in a matter of weeks. Today, orders for next year's program must be placed now.

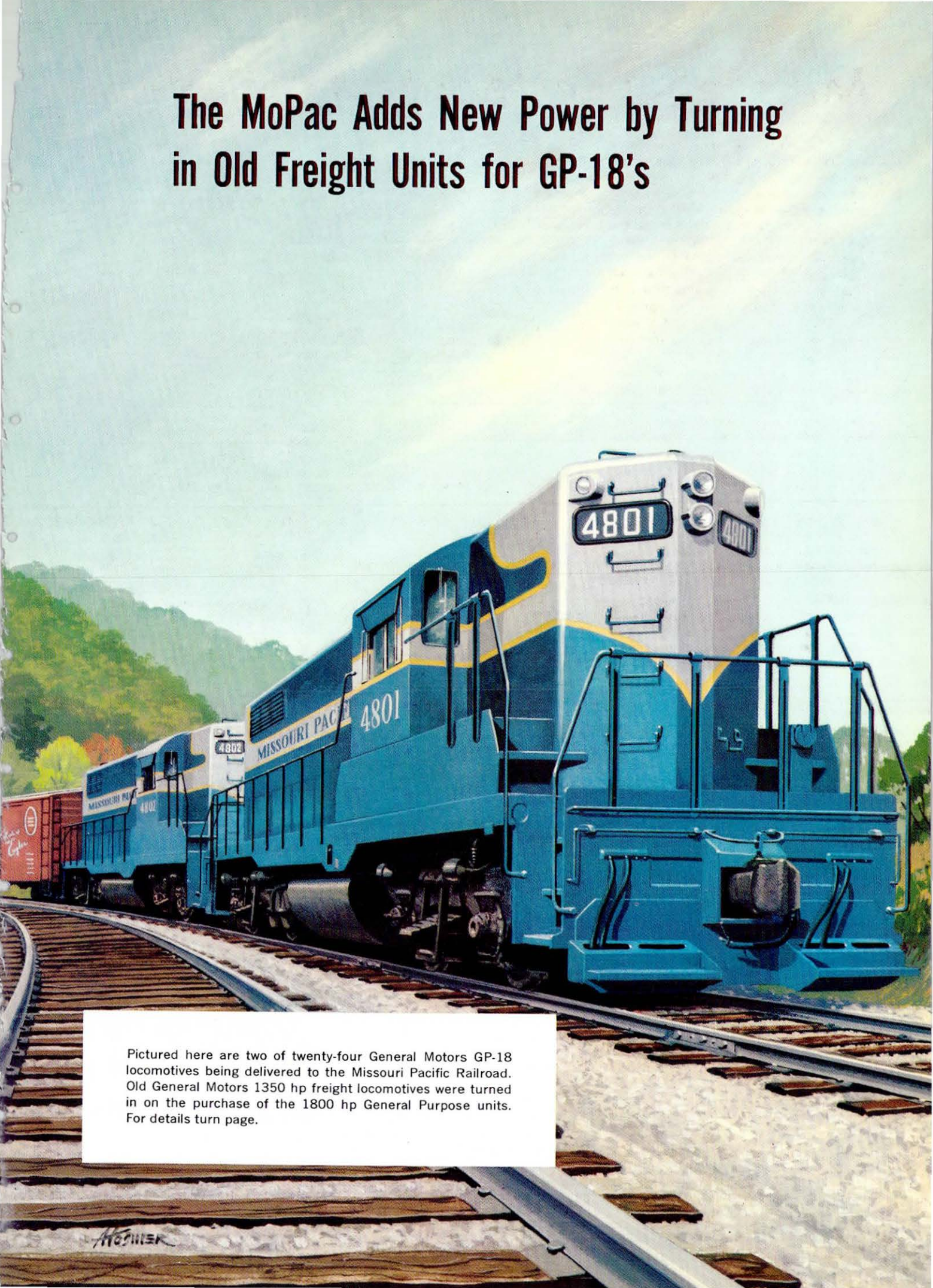
Also, once committed to mechanization, Mr. Jerman said, railroads must continue to supply machines with work.

(*Continued on page 48*)

"REGARDLESS of the circumstances determining the actual maintenance to be performed, the budget remains the most efficient means for planning expenditures."—F. L. Etchison, chief engineer, WM.

"MACHINES MUST WORK in order to pay for their cost. These machines cannot insure safe track or prevent accidents while sitting idle."—D. L. Jerman, chief engineer, P&WV.

The MoPac Adds New Power by Turning in Old Freight Units for GP-18's



Pictured here are two of twenty-four General Motors GP-18 locomotives being delivered to the Missouri Pacific Railroad. Old General Motors 1350 hp freight locomotives were turned in on the purchase of the 1800 hp General Purpose units. For details turn page.

The new General Motors GP-18 . . . an 1800 horsepower General Purpose locomotive . . . features the new 567-D1 engine providing a 5 per cent improvement in specific fuel consumption and improvements in other components which, taken together, permit a 60 per cent reduction in scheduled maintenance compared with earlier GP models.

Locomotive Replacement on the MoPac

Taking advantage of the lower operating cost of today's General Motors locomotives, the MoPac is turning in twenty-four old FT freight locomotives on the purchase of an equal number of new-model GP-18's. The GP-18 incorporates improvements in all major components resulting from Electro-Motive's intensive research and development program . . . important advancements in performance and operating efficiency spanning the 17-year period (and five series of locomotive models) since the MoPac first took delivery of their FT's.

Working on a progressive, planned Locomotive Replacement Program, the MoPac is acquiring the units at much lower capital investment because of the turn-in value of the old locomotives.

The GP-18 units also provide an increase of 10,800 horsepower over the old units . . . the equivalent of *six additional locomotives.* Thus, the MoPac has additional capacity to haul more tonnage or run faster schedules with the same number of units.

The flexibility of the GP-18 model over the freight type locomotive provides for maximum utilization in a wide variety of service.

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION · GENERAL MOTORS

LA GRANGE, ILLINOIS • *HOME OF THE DIESEL LOCOMOTIVE*

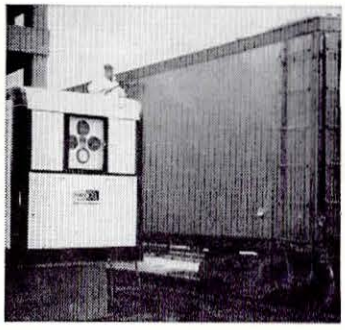
In Canada: General Motors Diesel Limited, London, Ontario

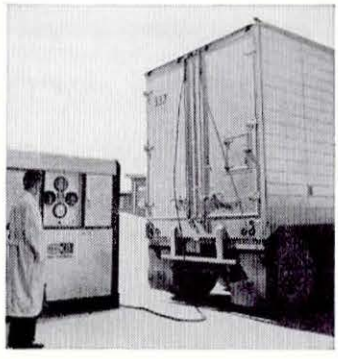
More power at less cost with General Motors great new line of locomotives—

1800 hp General Purpose GP-18 | 1800 hp Special Duty SD-18 | 2000 hp General Purpose GP-20 | 2400 hp Special Duty SD-24 | 1325 hp Road Switcher RS-1325

40° above to 60° below in 2½ minutes*

...WITH PURECO CO_2 "BLAST CHILLING"





The AFDOUS uniform code being adopted by both states and food chains requiring the maintenance of near zero temperatures for the handling and shipping of frozen foods, creates the need for additional refrigeration techniques.

Pureco Blast Chilling gives quick "pull-down".

Pureco carbon dioxide liquid sprayed into the truck or car reduces interior temperatures to sub-zero in seconds. The warm, moisture-laden air is flushed out and replaced with cold, dry vapor, preventing any "heat shock" from loading temperatures. Time consuming pre-cooling periods are shortened, and after loading pull-down periods of two to four hours are eliminated, resulting in savings in fuel and maintenance.

No special equipment is needed.

Pureco CO_2 *Blast Chilling* needs no special equipment... it works with what you now have... mechanical units, hold-over systems or "DRY-ICE".

Have a trial Blast Chilling demonstration.

Pureco would like to demonstrate *Blast Chilling* to you in *your plant* under *your working conditions*... with no obligation on your part . . . Pureco's Technical Sales Service will make the demonstration and provide any technical assistance you need to help solve your refrigeration problems efficiently and economically with Pureco CO_2. Call your local Pureco man for details or write to:

**Actual Pureco Test*

PURECO CO_2

PURE CARBONIC

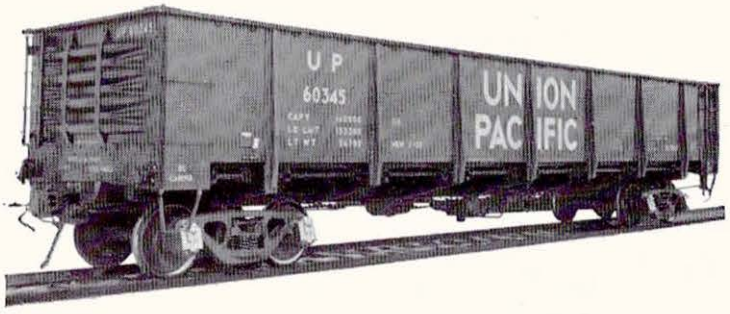
Pure Carbonic Company, A Division of Air Reduction Company, Incorporated
Nation-Wide Pureco CO_2 Service-Distributing Stations in Principal Cities
General Offices: 150 East 42nd Street, New York 17, N.Y.

AT THE FRONTIERS OF PROGRESS YOU'LL FIND AN AIR REDUCTION PRODUCT

UNION PACIFIC RAILROAD . . . provides a variety of

GONDOLAS

to better handle your products



SELF CLEARING
for commodities unloaded through the bottom

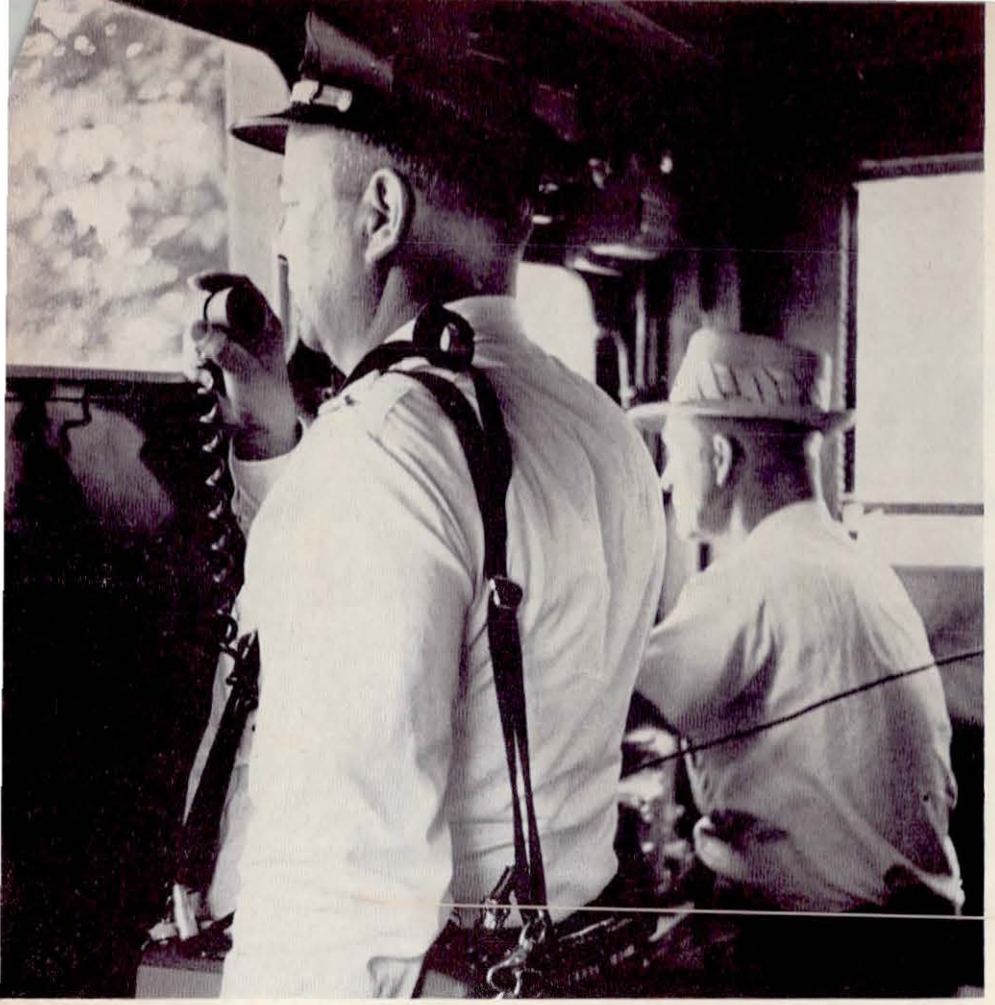
SOLID BOTTOM
for products requiring solid floor shipping

COVERED GONDOLA
for protecting products from the weather

Whenever you ship in or through the West

...be specific, say

Union Pacific RAILROAD



READY FOR VANDAL trouble, NYC police ride cabs.

RR PATROL CARS move to

NYC Patrolmen Use Long-Range

► **The Story at a Glance: Radio-equipped patrolmen have begun riding the cabs of New York Central trains in the New York commuter area. Their objective: to head off trouble from rock-throwing juvenile vandals. When possible trouble is spotted, the police officer gives warning from the cab. His walkie-talkie puts him in direct contact with radio cruisers as well as with NYC police headquarters.**

Talk to a man in railroad police work and chances are that you'll hear that vandalism is his biggest headache. Whether vandalism involves stoning trains, tampering with switches and signals or theft from shipments, it's likely to carry a heavy bill of damages. In a congested terminal area, the fight against vandalism can take half or more of the manpower of the protective department.

On the New York Central, commuter service into New York runs through a series of locations that give children an opportunity to throw rocks (and other objects) at moving trains. Although stoning can begin with a spur-of-the-moment act of an idle child, the Central takes the problem seriously. Stoning not only damages equipment and breaks windows, it endangers passengers.

(A recent fluke accident in Philadelphia illustrates how serious train stoning can become. There, an "Operation Northwest" passenger on the Reading's Chestnut Hill line was hit by a sliver of glass from a window broken by a thrown stone. A vein was severed and the passenger died [RA, May 16, p. 72]. Pennsylvania's PUC then invited Pennsylvania RR and Reading presidents to suggest a workable program to counteract stonings, which resulted in a three-part proposal: safety glass to be installed in all passenger repair and new construction programs, increased educational programs to get juvenile cooperation, and increased enforcement.)

When a particularly heavy rash of rock throwing broke out on the Central recently, Chief Robert W. Stone of the NYC police department assigned patrolmen to the cabs of Central commuter trains. Incidents are reported immediately from the train to the nearest radio-equipped patrol car, which then proceeds to the spot. The call is monitored by the radio desk at NYC headquarters, and any additional assistance needed is requested from local authorities.

Foot patrolmen with "handie-talkie" radios are also assigned to provide additional coverage at locations where the problem has been most severe, on both the Hudson and Harlem Divisions. Receiving-transmitting sets used by these officers are light enough to be carried with ease. The power pack is suspended from a belt with the microphone attached to the coat lapel, an arrangement that leaves the wearer's hands free.

Central's 24-hour short-wave system operates under a Federal Communications Commission license. Signals cover the entire metropolitan area.

trouble spots promptly.

FOOT PATROL signals all clear when stoning is quelled.

Walkie-Talkie Against Vandals

Vandalism: The High Cost to RR Customers

Item: Fire broke out in the lading of a box car in a Massachusetts yard, waiting for morning departure to a Maine customer. The shipment of electrical circuit breakers suffered damage estimated at between $15,000 and $20,000.

A few days before, caboose cars in the same yard had been broken into, and fusees and torpedoes, along with miscellaneous equipment, had been stolen. The railroad police suspected that the two incidents were related. A number of boys were questioned, and one confessed that he and eight others aged 10 to 13 had stolen the fusees and used them to start the fire. Later in court, the entire group of boys was found delinquent as charged.

Item: A freight train with 152 cars of coal in Pennsylvania was required to make an emergency stop after entering an open facing point switch. The emergency brake application derailed three cars of coal and caused other damage. Investigation resulted in the apprehension of three boys aged 12, 14 and 15 who admitted throwing the switch. They said they had forced the switch lock by using a spike and brake shoe for a hammer. The broken lock was recovered from a vacant lot where the boys had thrown it. The boys were placed on indefinite probation by a juvenile court.

Item: Two boys aged 12 attempted to recover a ball from a four-track railroad cut. Trapped between two trains, one boy died and the other was severely injured. A judgment of $113,000 was eventually handed down against the railroads.

Sometimes troublesome, sometimes tragic, vandalism is a needless waste both of manpower and of money. And as an AAR Protective Section committee reported recently, "This is a never-ending program because each year we have a new group coming along to be educated." Unlocated Loss, Entire Package claims, some of which are certainly the result of vandalism, were $3,585,352 in 1959 compared with $3,710,008 in 1958. In 1959, 3,172 cases were reported of obstructions having been placed on tracks, and 8,249 cases of tampering with switches and other malicious mischief. Of these, 6,446 are known to have involved juveniles.

 (*Continued from page 40*)

This requires a certain number of men and the necessary materials. As a result, he continued, maintenance departments are working with the limitations of a fixed capacity, a minimum number of men, and fixed interest and amortization charges. This means, he said, that flexibility in respect to M/W procedures has been lost, and any attempt to alter monthly payroll to meet business fluctuations will be countered by higher inventory and machine costs.

"THE PRINCIPAL FACTOR involved in the preparation of any program is the amount of money management can allocate for maintenance of way during any given period."—C. J. Henry, chief engineer, PRR.

"MECHANIZATION TODAY is a question of getting more machine utilization. The double-shift plan offers a way to do this."—D. T. Faries, chief engineer, B&LE.

The matter of fixed expenses, the speaker continued, will be accepted by management with a great deal of reluctance because the last two remaining areas where management feels it has control of expenses lie in the maintenance-of-way and the maintenance-of-equipment departments. Mr. Jerman emphasized that management must be sold on the idea that minimum M/W expenses must be provided for if maximum return from mechanization is to be obtained.

Mr. Jerman said good planning can be divided into four parts: (1) Recognizing the factors affecting the future of the railroad industry. (2) Forecasting the future of the property. (3) Preparing a plan, including the method of control and ultimate objectives. (4) Getting the plan put into operation.

The future of a railroad is influenced, said Mr. Jerman, by such factors as labor, inflation, mechanization and automation, and technological changes. Labor costs, he pointed out, will continue to mount yearly, not only in increased hourly rates but also in increased benefits. Inflation, he thought, can be combatted by longer material service life through better products. In this connection, he said, first cost now is not the prime consideration.

Multi-Purpose Units

Referring to mechanization and automation, Mr. Jerman said he felt that today's equipment is designed for specific jobs which, as a result, makes it difficult to keep them busy every day. It was his opinion that multi-purpose machines will increase efficiency and go far in reducing total equipment investment. Eventually, mechanization will reduce forces to the extent that no further significant reduction can be made. This will produce the technological change of shifting the emphasis in cost reduction to a search for longer lasting materials and for designs of structures requiring minimum maintenance.

Foremost in any forecasting of the future of a property, said Mr. Jerman, is the assembly of reliable unit prices and costs. In this connection, he felt it desirable to have such figures appraised by a representative cross section of the engineering and maintenance department, including supervisors and general foremen.

Preparation of the plan is the third step in planning. The objective here is to adjust maintenance demands and needs to the predicted conditions, Mr. Jerman said, and thus obtain the maximum efficiency for equipment and the largest return on the capital invested. This plan, Mr. Jerman explained, should be realistic and cover the first-year period in detail and, if based on a five-year study, the other four years in general objectives.

The last step in preparing a program is installing it and making it work. This, he noted, is primarily a company organization problem.

In conclusion, Mr. Jerman said that planning is only a process which enables the department to meet the contingencies of the future. Also, it is a device to coordinate all facets of M/W operations.

In the ensuing discussion, a question was raised as to whether or not long-range planning was just a waste of time because of adjustment to fit changing conditions. However, it was the general opinion that such planning gave a target to shoot at.

Prompt Train Turnaround

Another officer stated that long-range planning permitted his road to upgrade several branch lines where the operating department ran only one train a day. This enabled the train to go faster and return to its point of origin on the same day, resulting in substantial operating savings.

One weakness of cycle maintenance was brought out. One road which had pioneered in cyclical maintenance found that, because the original cycle had called for it, more ties were being renewed in the field than actually necessary. To correct this situation, the tie-renewal cycle plan has been given up and renewals now are being made only from field inspections.

How Much Control?

Speaking on the control of maintenance programs, Mr. Henry said that the amount of money allocated for M/W work is predicated upon a percentage of an estimated volume of traffic. After the amount has been determined, the expenditures are broken down into various items on a system basis, after which they are further divided by regions and divisions.

All items of maintenance are considered. However, of the 23 items for which money is allocated, Mr. Henry said that eight were items over which a maintenance officer had little or no control. These included depreciation, regional overhead, health and welfare, injuries to persons, thrift plan, medical care plan, system overhead and miscellaneous emergencies.

(*Continued on page 69*)

Experience Counts

We're not saying a greenhorn can't roll a one-handed cigarette in a stiff breeze first time out. He might do it once . . . if he's lucky . . . but chances are he'll waste most of the "Makins." In the long pull, the know-how, the "savvy" that comes from long experience is the thing that gets the job done, dependably, time after time.

In transportation, it's exactly the same. Only experienced hands, like Texas Pete and all the other T & P folks, get your shipments through, on time and in perfect shape, day in and day out. So, let T & P's experience work for you . . . it means faster, better, cheaper service the year 'round.

SHIP T&P

Your reliable

TEXAS AND PACIFIC RY.

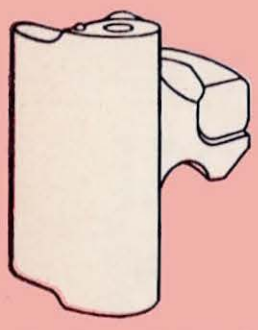
Top Lock Lifter
Assembly . . . Cat. No. E-6-A

Top Lock Lifter
Hole Cap
Cat. No. E-2

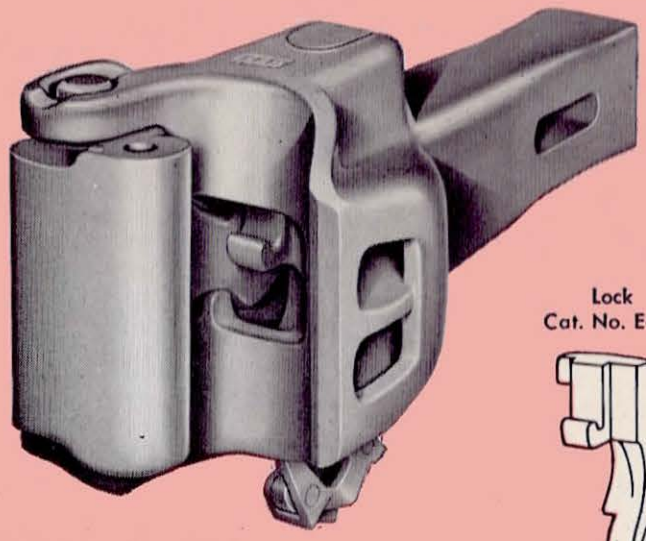
Top Lock Lifter
Hole Cap
Cat. No. E-2-A

Knuckle Thrower...Cat. No. E-30

Articulated Rotary
Locklift assembly
Single . . . Cat. No. E-24-B
Double . . . Cat. No. E-25-B



Knuckle . . . Cat. No. E-50

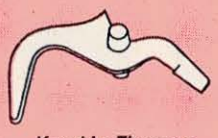


Knuckle Pivot . . . Cat. No. C-10

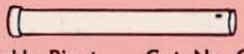
Lock
Cat. No. E-40

AAR Standard
Type E
Coupler Parts

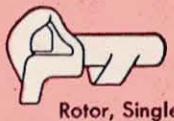
New Youth for



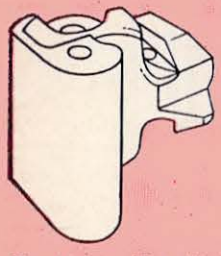
Knuckle Thrower
Cat. No. F-31



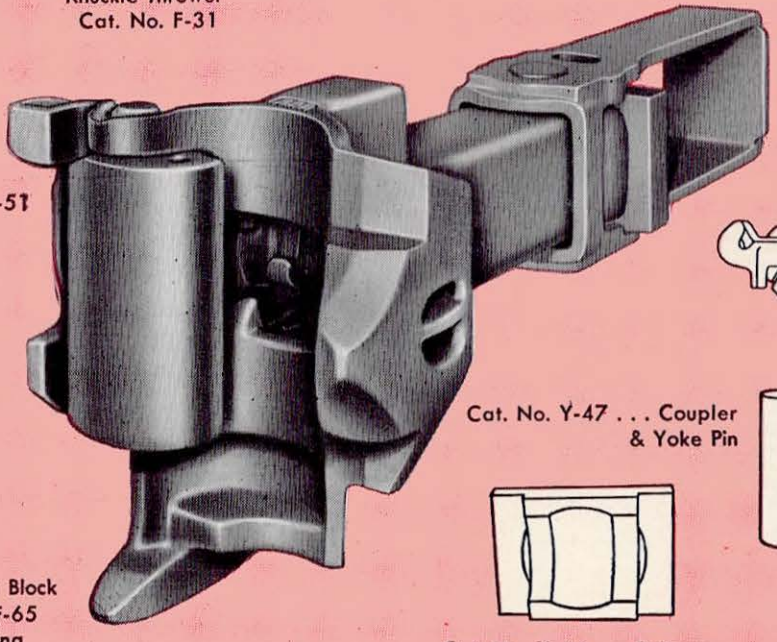
Knuckle Pivot . . . Cat. No. C-10



Rotor, Single
Cat. No. F-8



Knuckle . . . Cat. No. F-51



Lock . . . Cat. No. F-41

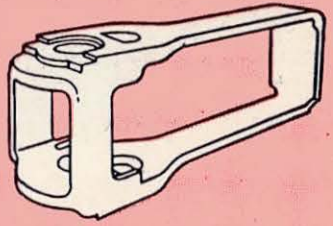
Rotary Lock
Lift Assembly
Cat. No. F-7
AND
Rotor F-8
Assembled.

Rotary Lock
Lift Assembly
Cat. No. F-7

Pin Bearing Block
Cat. No. F-65
and Spring
No. F-66

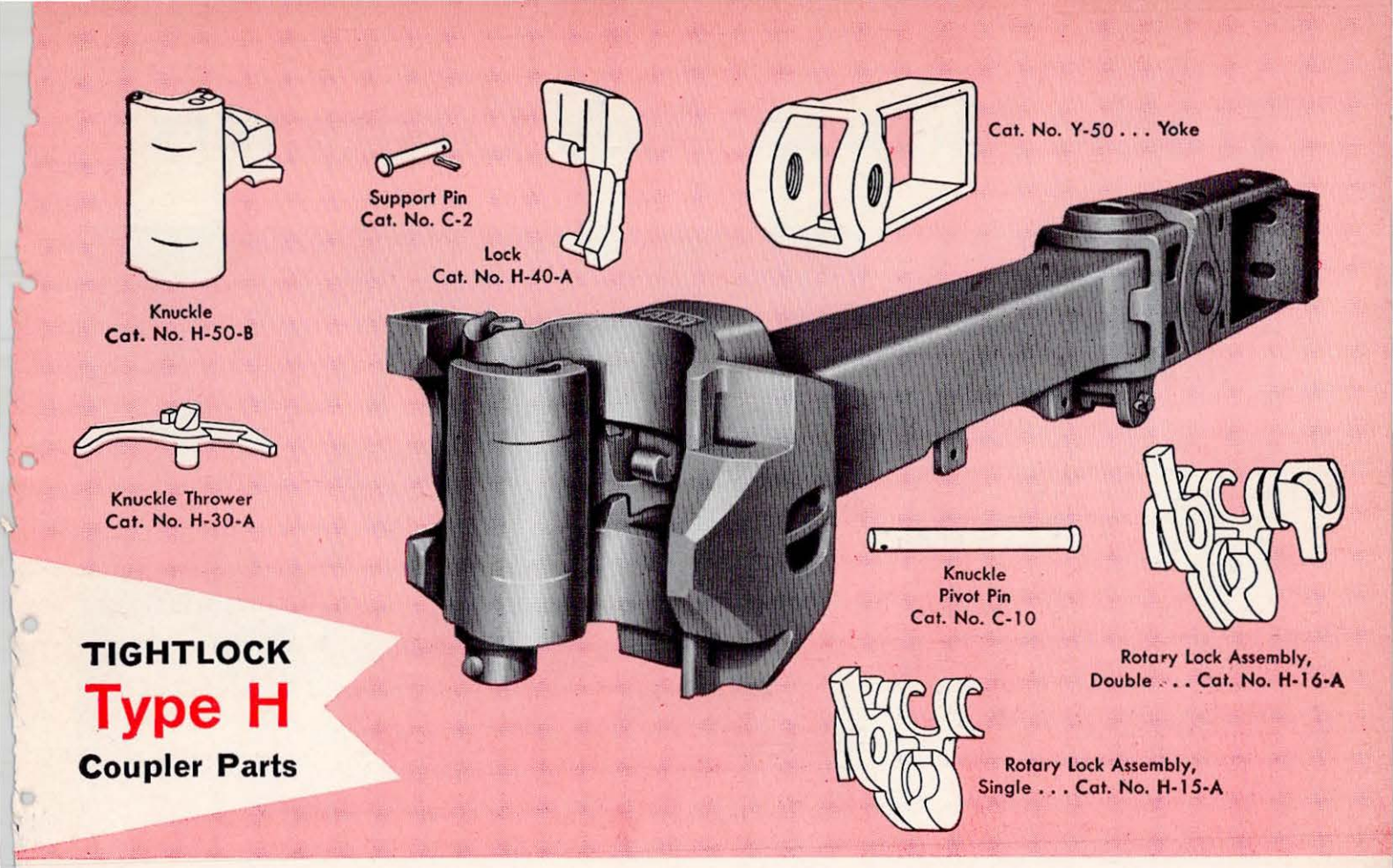
Cat. No. Y-47 . . . Coupler
& Yoke Pin

Cat. No. Y-46 . . . Follower



Cat. No. Y-45 . . . Yoke

AAR Standard
Type F
Coupler Parts



TIGHTLOCK
Type H
Coupler Parts

Aging Couplers

with the toughest repair parts made!

When couplers need rebuilding or repairs, remember . . . Only ASF makes ALL types of AAR approved coupler designs. Whatever your requirements, therefore, you can be sure they will be promptly and completely satisfied. What's more, ASF parts are not only the toughest, most durable made but they are guaranteed to be original replacement parts, precise in every minute detail of shape and dimension.

So, when you rebuild with ASF parts, the finished product is, for all practical purposes, a brand new coupler. To serve you promptly, too, we maintain a large inventory of coupler parts ready for immediate shipment. So, any time you need coupler-parts, call in your ASF representative. Get the toughest repair parts made!

ASF PARTS FULLY SATISFY AAR TEST SPECIFICATIONS

ASF

Couplers

AMERICAN STEEL FOUNDRIES

Prudential Plaza, Chicago 1, Illinois

Canadian Manufacturer and Licensee: International Equipment Co., Ltd., Montreal 1, Quebec
Other Foreign Sales: American Steel Foundries, International, S.A., Chicago

PRI MEMBER

Traffic Mission Aids Customers

► The Story at a Glance: Traffic experts from International Minerals & Chemical Corp. recently spent three months visiting customer companies in the United States and Canada.

Their purpose: to help the individual plant food manufacturer cut transportation costs and improve his service.

IMC feels that preoccupation of rail traffic salesmen with "beating the bushes" for business hampers their ability to serve shippers and is "a weakness railroads must correct." With its service program IMC hopes to fill this gap for its customers.

EUGENE LANDIS, director of transportation, International Minerals & Chemical Corp. (center), checks information with members of his team of experts who visited IMC customers recently.

An eight-man team of traffic experts, headed by Eugene Landis, director of transportation, International Minerals & Chemical Corp., recently visited IMC customers to ask, "What's your traffic problem?"

The trouble-shooters also wanted to know, "How can we help?"

The comprehensive, country-wide transportation mission—part of IMC's "Full Orbit" customer service—was undertaken to show the individual fertilizer manufacturer what he can do about his transportation costs and services.

The experts concerned themselves with all modes of surface transportation—rail, truck, barge and vessel. They spent more than three months visiting more than 200 customer companies across the United States and Canada. During this time they found effective solutions to 59 specific problems.

"In many instances," says Mr. Landis, "faulty rates and faulty service have resulted simply because local freight agents were unfamiliar with certain commodity rates, volume rates, intermediate scheduling and other factors."

Carriers were pleased with the program, he explained, because "they want to charge the correct rate and offer the best services, but sometimes the smaller company hasn't the time or the personnel to call its problem to the attention of the carrier."

IMC considers its transportation mission the most comprehensive attempt ever made to bring the most effective transportation possible to the plant food industry—an industry that charges one-third of its operating costs to transportation.

The IMC traffic experts offered help and advice in:

- Routing and freight rates.
- Plant location studies and warehousing problems.
- Car supply and barging.
- Tariff interpretation and freight claims.
- Negotiations with carriers.

Here are some specific problems the Landis team encountered:

► One IMC customer, receiving sulfate of ammonia, paid the maximum rate because the shipper could load only 86,000 lb in 140,000-lb-capacity cars. IMC arranged a conference between the customer, the shipper and the railroad.

As a result, the railroad will attempt to supply higher capacity cars and the shipper will arrange closer supervision of loading to utilize the lower rates on 100,000-lb-minimum shipments. If this fails, the railroad has promised to publish rates based on a lower minimum.

► Construction of a branch plant was being held up because shipments of phosphate from Florida would be assessed an additional local charge of $5 per ton at the proposed location.

IMC traffic men found the new location would be in a different railroad district and the local charge would not apply. The customer is now considering the new plant more favorably.

► A midwest user of phosphate rock is between two railroad division points. Shipments were set off at the nearest division point and the plant received local service only three days a week. This made plant operations difficult to schedule, resulted in demurrage charges and overtime payments.

After a conference with the railroad, it was agreed to set off shipments for this plant at different division points on alternate days and provide daily service with both northbound and southbound locals switching the plant.

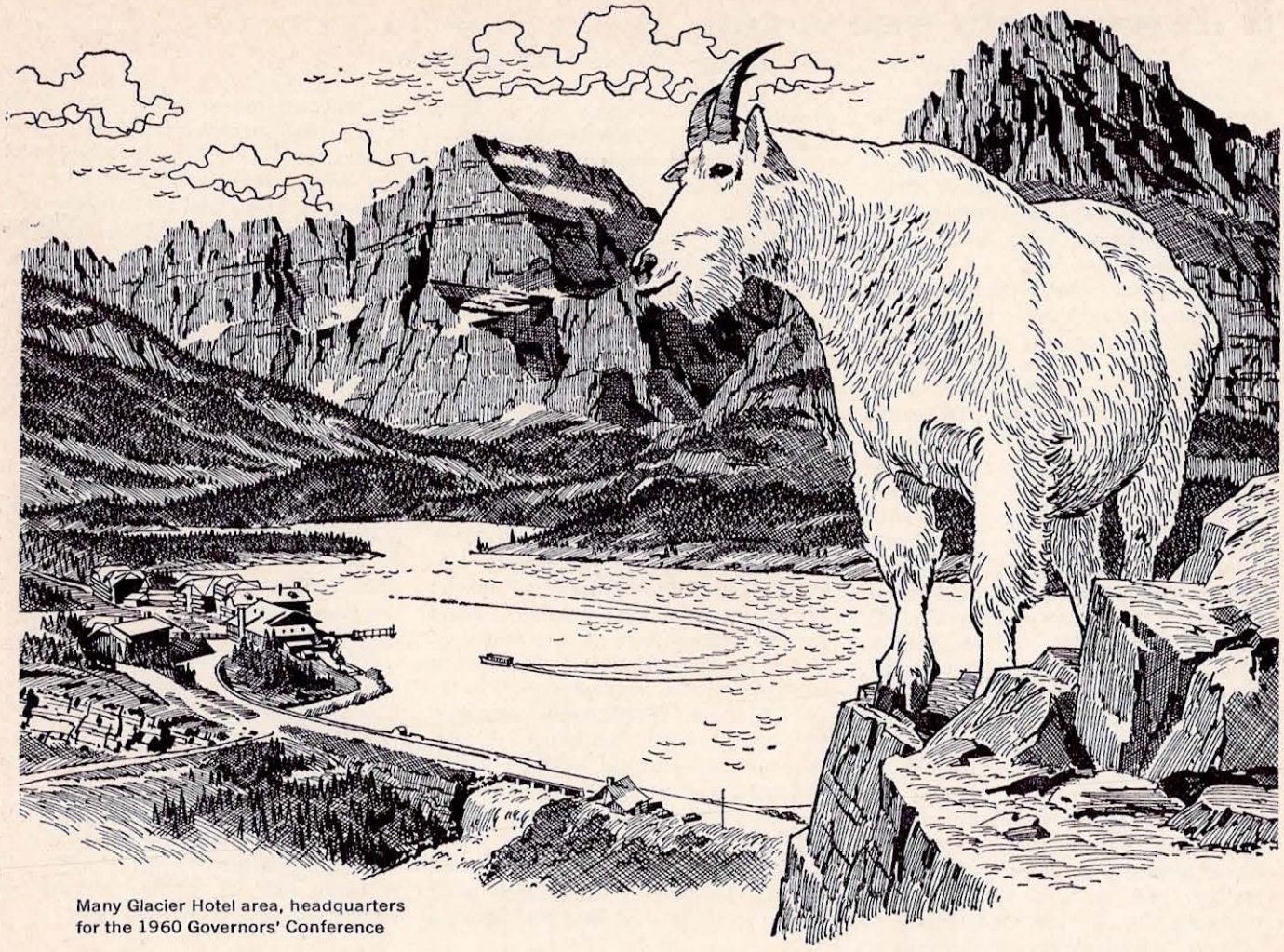
To coincide with its transportation service, IMC has inaugurated a "Transportation News-Letter," published regularly by the Traffic Department. It contains information developed at rate hearings and industry meetings and from trade publications, boiled down and aimed specifically toward the plant food industry.

"We expect this type of program may mushroom throughout the industry," Mr. Landis points out. "Some of the larger customer companies, with their own traffic staffs, told us they plan to carry out similar activity with their customers."

IMC's transportation service will continue to be available on a limited basis as requests for it come in from regional offices. The company will assist customers in rate negotiations, tracing or reconsigning shipments, rate quotations, shipping problems and in preventing loss and damage.

Why can't railroad traffic salesmen do a similar job for shippers? According to Mr. Landis:

"The railroad salesman is too busy beating the bushes looking for business to get at the base of the problem. This is a weakness railroads will have to correct."



Many Glacier Hotel area, headquarters for the 1960 Governors' Conference

Glacier National Park

Millions of years old – but celebrating its 50th birthday!

The Land of Shining Mountains . . . Montana's treasure of treasures . . . Glacier National Park is 50 years old this year.

What a curious golden anniversary year, for Glacier Park's lofty peaks were thrust up from the plains millions of years ago.

America's fourth largest national park, Glacier will be host in June to governors of the 50 states who will meet for their annual conference.

This is an especially happy occasion for Great Northern Railway, which had an important role in the establishment of Glacier National Park. Through these 50 years we have been host to legions of summer travelers in the lodges, hotels and motels of Glacier National Park—50 years of fun for visitors, and for us!

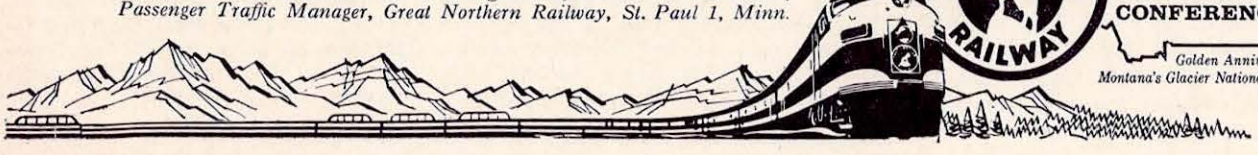
There's fun in store for you, too, in Glacier Park during its anniversary year. Go direct on Great Northern's Western Star.

For complete information on Glacier National Park vacations, including accommodations, costs and travel arrangements, write: *P. G. HOLMES, Passenger Traffic Manager, Great Northern Railway, St. Paul 1, Minn.*

GREAT NORTHERN RAILWAY

1960 GOVERNORS' CONFERENCE

Golden Anniversary Montana's Glacier National Park



IN AIR FREIGHT, IT'S SPEED vs. COST (*Continued from page 17*)

same complaint: "We are 32 miles from New York City, and often find it takes as long to deliver to us from the terminal as it does to make the air move. The biggest area for improvement is in terminal operations prior to and after the air move."

The problem is not local to the New York area. It's mentioned also by such men as F. E. Juranek, general traffic manager, Clark Equipment Co., Battle Creek, Mich., and Phil Carr, traffic manager, TG&Y Stores Co., Oklahoma City.

Limitations on size, weight and type of freight acceptable for air transport are a matter of concern to some shippers, especially those representing heavy industry, like M. I. Adams, traffic consultant, Cutler-Hammer, Inc., Milwaukee, and P. G. Jefferson, general traffic manager, Fairbanks Morse & Co., Chicago. John Flagg, traffic manager, E. I. du Pont de Nemours & Co., Wilmington, Del., points out that "dangerous articles" requiring limited packaging are not susceptible to air shipment.

W. G. Burnette, secretary-manager, Lynchburg, Va., Traffic Bureau, mentions "lack of joint rates," while C. M. Naylor, TM, Black & Decker Manufacturing Co., Towson, Md., thinks location of airports and cost of service to and from them are limiting factors. A. C. Shaw, traffic manager, Curtis Cos., Clinton, Iowa, refers, as do several other men, to "passenger, mail and express priorities," and also says there is "insufficient information re service, especially to small destinations."

On the other hand, C. H. Crook, general traffic manager, United Aircraft Corp., East Hartford, Conn., sees "not enough of it" as air freight's only disadvantage. And J. W. Jackson, traffic commissioner, Green Bay, Wis., Association of Commerce, suggests (as do some others) that, as a practical working matter, there are no disadvantages. Their reasoning is that, "where a disadvantage exists, air freight is not used. It is a simple matter of applying cost to service received."

Looking ahead, there seems to be a fairly general belief that costs of air freight will show a downward trend—which will obviously make it a more serious competitor of surface transport.

In what should be a well-informed opinion, L. J. Rowley, manager of traffic and transportation for the California division of Lockheed Aircraft Corp., at Burbank, says, for example: "With the newer models of jet-powered aircraft, the cost per ton-mile will be reduced to a point where more and more materials can be shipped by air cargo at no greater cost than by surface carrier, with speed being a free bonus."

Mr. Rowley is not alone among Poll respondents in his opinion. The future, says George Lambries, traffic manager, Mirro Aluminum Co., Manitowoc, Wis., "will reduce air ton-mile costs and should result in increased tonnage of general freight." A good many others who make no predictions about future traffic see cost as air freight's only present disadvantage.

Cost reduction, however, may not be the whole story. R. E. Meyers, staff assistant, McDonnell Aircraft Co., St. Louis, thinks air freight must also overcome such existing problems as "lack of equipment to handle larger shipments; seasonal irregularity of flights; and the fact that shipments don't always get on a given flight or are taken off before reaching destination because of mail, air express or passengers."

T. A. Boint, freight traffic manager, National Lock Co., Rockford, Ill., suggests that, as air freight increases, "more and better packaging will be necessary, and there will be more damage."

Mr. Albertson, quoted above, thinks terminal delays and ground pickup and delivery problems will become more serious as volume grows. Mr. Dawson and several other traffic men think weather and mechanical delays will be around for a long time to come. And Mr. Timm makes the point (which railroad men will well understand) that air freight carriers are always likely to find it difficult to control their traffic volumes. "It will be used," he writes, "only when a shipper requires expeditious service for which he is willing to pay. Traffic which may move via air freight today will revert to rail or water when time is not so important."

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Summing up both parts of the Poll, it seems fair to conclude that shippers, in general, and with numerous exceptions, look on air freight as a carrier of shipments when speed is more important than cost.

But many of them—like R. F. Hogan, traffic manager of Philadelphia's Warner Co.—are using it "more and more"; "rely on its speed and service" to transport, for example, such items as repair and replacement parts.

If its cost can be reduced, as many think it will be, and its service maintained, which many consider doubtful, it looks like an increasingly serious competitor for surface carriage.

Army Develops 13-Car 'Overland Train'

For heavy hauling in difficult terrain, where rail or highway transport is not available, the Army's Transportation Research Command at Fort Eustis, Va. is developing a 13-unit, "go-anywhere" vehicle. A prototype is being built by R. G. LeTourneau, Inc. of Longview, Texas. The 13-car consist includes ten cargo carriers, each with a capacity of 15 tons, a control car and two power-generating units, which provide power to the self-propelled cars. The control car carries a six-man crew, a communications system and a separate power plant that permits it to operate when detached from the rest of the train. Only the two front wheels of the 54-wheel vehicle are steered by the operator. The rest track automatically under the guidance of mechanical coupling devices. With its low-pressure, 10-ft high and 4-ft wide tires, the train can move at 20 mph on level ground, can turn within a 65-ft radius, and keep moving up a 60% grade.

Vol. 3, No. 1

Railway Executive News

Published by Railroad Products Division, SERVO CORPORATION OF AMERICA

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111 New South Road • Hicksville, Long Island, New York

SERVO ADDS SPERRY RAILROAD RADIO LINE

Supplements SERVOSAFE® Hot Box Detective* Systems

HICKSVILLE, N.Y.—Servo Corporation of America, pioneer in the development of infrared hot box detection systems for the railroads, has just announced acquisition of another key line of products by its Railroad Products Division.

Negotiations have been concluded with Sperry Products Company, a division of Howe Sound Co., Servo spokesmen indicated, to take over the manufacture and marketing of Sperry's complete line of railroad radio communication systems.

Smooth transfer of Sperry tools, other equipment, and manufacturing know-how from Danbury, Conn., to Servo's new 134,000 square-foot Hicksville, Long Island, plant during recent weeks will enable Servo to get into early production.

Chosen For Radio and Electronic Capability

As successors to Sperry in the radio field, Servo further expands as a major systems supplier to the railroads.

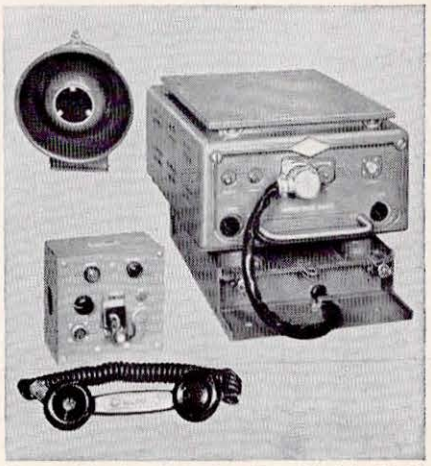
According to a Sperry official:

"We have held discussions with a number of other companies in addition to Servo Corp. to determine the most logical successor to Sperry in the railroad radio field. However, we chose Servo primarily because of the enviable reputation the company has built among railroad customers for quality and service."

"This factor," he continued, "combined with another important consideration — Servo's tremendous reserve of radio engineering talent and capability —led us to the selection of Servo Corp. as the best possible guarantee that Sperry's own reputation for quality would be preserved in the railroad field."

Servo Corp. is well known in the railroad industry for its SERVOSAFE® Hot Box Detective*, an infrared electronic scanning device for detecting and charting dangerously overheated bearings on passing freight trains. First installation of the equipment was made on the Chesapeake & Ohio Railroad.

Today, upwards of two hundred Hot Box Detective systems are in successful operation on twenty-six major Class I American railroads, as well as railroads overseas. Several roads have installed the equipment system-wide.



Servo Single Pack Radio, Model SP-1.

Since Sperry Products was acquired by the Howe Sound Co. at the end of last year, it has been consolidating its position in the non-destructive testing field, a Sperry specialty. Consequently, Sperry decided to transfer its railroad radio to another manufacturer in the railroad electronics field.

Single Pack SP-1 Radio Designed For Railroad Use

The Single Pack SP-1 set taken over from Sperry is a lightweight, compact, transistorized radio designed exclusively for railroad operations according to specifications laid down by the Association of American Railroads. It is approved by the Federal Communications Commission. The radio also has approval in Canada and other countries.

Geared to grow with contemplated traffic, the radio converts economically for 1-, 2-, 3-, or 4-channel operation. It provides radio facilities for train-to-train, train-to-wayside, and end-to-end communications.

The Model SP-1 radio can also fulfill requirements for multi-frequency operation, talk-back operating positions, intercommunications between control positions, and a variety of remote control procedures. ■

NOW—IMMEDIATE DELIVERY ON BASIC DETECTIVE SYSTEM

Basic SERVOSAFE® Hot Box Detective systems and components are stocked for immediate delivery. The systems you order today will be protecting your road in time for the hot summer months.

Eight years of development and application experience enable Servo engineers to recommend optimum locations. Installation and operation are supervised by SERVOSAFE® Hot Box Detective specialists.

Whether you prefer to purchase or lease, contact the Railroad Products Division today. Beat the heat. *Order now; shipment in 48 hours or less.* ■

OPERATIONAL, PROVED: 6 SERVOSAFE SYSTEMS TO BEAT HOT BOX HAZARD

Debugged, dependable, designed to fit the individual problems of each individual road. Select the exact mode of hot box protection you need from among the Basic SERVOSAFE system...or any of these five flexible expanded system Groupings:

GROUPING I—Basic system, **plus** SERVOSIG® Carrier

GROUPING II—Basic system, **plus** Automatic Alarm

GROUPING III—Basic system, **plus** Automatic Alarm and SERVOSIG Carrier (remote recorder location)

GROUPING IV—Basic system, **plus** Automatic Alarm with railroad carrier (wayside recorder)

GROUPING V—Basic system, **plus** Automatic Alarm with SERVOSIG Carrier (wayside recorder)

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Freight Operating Statistics of Large Railroads—Selected Items

Region, Road and Year		Miles of road operated	Locomotive Miles: Train miles	Locomotive Miles: Principal and helper	Locomotive Miles: Light	Car Miles: Loaded (thousands)	Car Miles: Per cent loaded	Ton-miles (thousands): Gross excl.locos & tenders	Ton-miles (thousands): Net rev. and non-rev	Road-locos. on lines: Serviceable: Unstored	Road-locos. on lines: Serviceable: Stored	Road-locos. on lines: B.O.	Road-locos. on lines: Per cent B.O.
New Eng. Region	Boston & Maine	1960	1,546	217,188	217,348	2,902	7,551	59.6	547,794	213,383	81	..	23	22.1
		1959	1,559	199,512	200,285	4,330	7,478	60.6	535,975	211,894	64	7	29	29.0
	N. Y., N. H. & Hartfd	1960	1,739	241,504	242,866	14,344	8,526	62.1	576,052	227,611	58	..	22	27.5
		1959	1,739	222,318	222,332	13,321	8,747	64.1	576,665	231,728	71	..	17	19.3
Great Lakes Region	Delaware & Hudson	1960	763	161,648	163,803	2,654	8,201	64.5	541,540	268,669	31	..	6	16.2
		1959	764	147,239	149,845	3,045	7,434	63.4	539,332	270,117	35	..	4	10.3
	Del., Lack. & Western	1960	941	223,538	231,811	12,236	9,263	64.0	648,698	271,532	55	..	9	14.1
		1959	918	226,053	230,289	13,214	8,996	64.5	618,609	257,537	57	..	6	9.5
	Erie	1960	2,239	534,267	536,690	15,895	27,322	66.7	1,796,934	720,092	169	..	5	2.9
		1959	2,201	470,737	472,610	14,854	25,342	68.7	1,591,370	644,459	173	..	2	1.1
	Grand Trunk Western	1960	951	201,405	202,968	2,175	6,810	57.1	493,719	189,921	46	7	17	24.3
		1959	951	203,036	207,104	2,895	6,814	59.4	505,142	201,828	46	13	25	29.8
	Lehigh Valley	1960	1,114	182,921	185,225	5,649	8,010	64.6	554,302	250,566	28	..	6	17.6
		1959	1,116	177,357	180,062	4,579	7,742	65.3	527,696	237,788	28	..	6	17.6
	New York Central	1960	10,326	1,953,997	1,962,491	87,282	80,179	56.0	6,436,233	2,653,169	452	..	52	10.3
		1959	10,395	1,935,689	1,946,315	78,032	78,038	58.0	5,896,716	2,646,989	434	..	47	9.8
	New York, Chic. & St. L	1960	2,155	585,157	585,157	5,011	25,746	62.5	1,890,467	818,385	104	25	11	7.9
		1959	2,155	558,311	558,311	4,515	24,167	62.1	1,761,578	764,429	102	31	5	3.6
	Pitts. & Lake Erie	1960	220	53,456	53,456	....	2,201	62.5	208,130	123,069	15	..	2	11.8
		1959	221	54,090	54,090	....	1,987	63.0	181,509	112,019	14	..	2	12.5
	Wabash	1960	2,400	409,093	409,093	4,589	18,750	63.1	1,317,812	536,112	113	..	2	1.7
		1959	2,379	461,392	464,655	4,022	19,283	61.3	1,350,118	528,920	111	..	3	2.6
Central Eastern Region	Baltimore & Ohio	1960	5,795	1,271,631	1,351,284	90,709	53,944	58.9	4,260,017	1,978,339	375	40	36	8.0
		1959	5,802	1,144,381	1,224,476	87,238	48,564	58.9	3,921,359	1,853,619	385	78	34	6.8
	Bessemer & Lake Erie	1960	203	41,332	42,204	67	1,614	63.5	166,983	102,517	10	3	..	..
		1959	203	35,099	35,404	65	1,113	62.1	112,557	66,965	10	3	..	..
	Central RR Co. of New Jersey	1960	594	103,420	104,620	5,048	3,933	62.3	314,593	167,902	65	2	4	5.6
		1959	597	97,029	98,192	5,105	3,342	63.5	253,912	126,735	61	..	2	3.2
	Chicago & Eastern Ill	1960	863	99,085	99,085	2,489	4,806	60.9	383,630	191,737	28	..	3	12.9
		1959	863	107,117	107,117	2,240	4,784	63.7	368,949	185,683	26	..	2	7.1
	Elgin, Joliet & Eastern	1960	205	70,998	71,771	....	2,291	58.3	202,233	108,719	43	..	..	..
		1959	205	66,249	66,577	....	2,216	60.4	187,205	100,634	44	..	..	..
	Pennsylvania System	1960	9,831	2,531,800	2,648,697	169,503	104,367	61.2	7,927,732	3,594,238	685	1	77	10.1
		1959	9,865	2,354,575	2,480,223	152,145	97,445	62.2	7,248,148	3,284,817	681	9	106	13.3
	Reading	1960	1,302	280,869	281,937	7,192	10,585	56.4	942,088	491,315	159	4	8	4.7
		1959	1,302	267,120	268,377	8,803	9,938	57.3	859,309	441,213	144	4	32	17.8
	Western Maryland	1960	843	129,504	133,612	6,755	5,287	60.0	489,556	270,750	42	..	1	2.3
		1959	844	134,602	140,038	8,015	5,508	60.7	490,143	277,087	42	2	1	2.2
Pocahontas Region	Chesapeake & Ohio	1960	5,060	1,052,147	1,053,384	18,135	46,758	54.7	4,155,281	2,226,331	579	..	55	8.7
		1959	5,061	1,058,719	1,061,103	18,729	48,113	55.2	4,140,715	2,319,929	589	..	32	5.2
	Norfolk & Western*	1960	2,722	713,368	729,728	26,743	34,847	53.7	3,532,269	1,881,917	170	26	12	5.8
		1959	2,724	688,533	716,241	37,933	35,334	55.6	3,412,301	1,854,734	230	25	19	6.9
	Rich., Fred. & Potomac	1960	110	36,731	36,731	773	2,330	60.9	165,606	67,397	15	..	..	..
		1959	110	35,214	35,214	760	2,276	60.8	158,424	62,583	15	..	..	..
Southern Region	Atlantic Coast Line	1960	5,563	688,900	688,900	7,266	25,649	57.1	2,018,838	918,525	129	..	1	.8
		1959	5,609	638,086	638,186	6,309	23,354	56.5	1,825,103	810,901	132	..	1	.8
	Central of Georgia	1960	1,712	175,195	175,195	1,831	6,941	63.9	531,150	257,410	34	..	1	2.9
		1959	1,714	174,127	174,127	1,482	6,876	64.1	523,674	251,925	33	..	2	5.7
	Florida East Coast	1960	572	90,669	90,669	....	3,425	52.8	264,844	92,325	46	6	2	3.7
		1959	572	117,570	117,570	....	3,804	51.7	306,749	106,178	53	..	..	..
	Gulf, Mobile & Ohio	1960	2,717	248,435	248,435	....	13,670	65.3	986,680	469,018	85	..	6	6.6
		1959	2,717	240,513	240,513	88	13,278	65.0	951,608	449,109	83	..	8	8.8
	Illinois Central	1960	6,500	944,387	944,387	24,484	42,176	59.9	3,162,953	1,444,425	171	10	57	23.9
		1959	6,439	938,466	938,466	25,678	41,882	60.7	3,123,158	1,439,060	195	30	152	40.3
	Louisville & Nashville	1960	5,666	876,184	877,430	14,637	33,950	59.2	2,739,587	1,340,599	167	..	3	1.8
		1959	5,680	838,940	840,586	14,617	32,990	58.5	2,646,534	1,299,984	164	..	3	1.8
	Seaboard Air Line	1960	4,134	572,578	572,578	2,689	23,322	58.3	1,856,174	845,496	122	..	5	3.9
		1959	4,135	563,178	563,178	1,874	23,156	60.3	1,826,817	841,871	130	..	4	3.0
	Southern	1960	6,242	825,663	825,813	8,938	38,179	61.9	2,726,592	1,104,521	200	7	5	2.4
		1959	6,243	775,396	775,540	8,463	36,830	63.9	2,560,695	1,188,831	194	1	2	1.0
Northwestern Region	Chicago & North Western	1960	9,244	759,301	759,301	9,047	27,884	60.3	2,083,760	864,404	176	..	24	12.0
		1959	9,251	757,300	757,378	8,850	28,083	62.9	2,022,818	867,397	145	..	20	12.1
	Chicago Great Western	1960	1,437	127,269	127,269	211	6,469	66.7	455,299	213,713	24	..	3	11.1
		1959	1,437	126,305	126,305	174	6,745	67.1	475,846	224,717	25	..	1	3.8
	Chic., Milw., St. P. & Pac	1960	10,591	749,908	756,691	8,526	34,239	63.9	2,449,582	1,082,200	153	18	8	4.5
		1959	10,583	797,247	808,077	12,848	34,998	61.4	2,496,406	1,092,567	281	8	11	3.7
	Duluth, Missabe & Iron Range	1960	575	27,877	27,903	226	605	47.2	53,979	25,874	31	40	12	14.5
		1959	557	23,186	23,214	315	383	46.0	31,838	13,211	23	24	14	23.0
	Great Northern	1960	8,276	852,305	856,630	19,197	34,805	64.5	2,522,569	1,137,460	274	9	9	3.1
		1959	8,281	866,798	868,416	20,788	33,212	67.3	2,308,966	1,049,773	266	14	16	5.4
	Minn., St. P. & S. Ste. Marie	1960	4,169	326,751	327,621	505	11,400	65.0	789,747	363,452	90	6	5	5.0
		1959	4,169	327,947	328,645	896	11,240	67.4	762,737	349,112	85	8	3	3.1
	Northern Pacific	1960	6,533	715,496	721,568	10,066	30,232	66.2	2,075,541	936,282	234	10	3	1.2
		1959	6,533	688,996	694,916	9,482	28,898	70.3	1,886,899	858,982	229	9	6	2.5
	Spokane, Portland & Seattle	1960	936	130,479	130,479	953	5,561	71.5	380,518	182,379	52	..	..	..
		1959	935	125,225	125,225	1,124	5,232	75.3	340,476	162,919	53	..	1	1.9
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1960	12,970	2,412,334	2,568,501	50,383	100,576	61.8	7,457,727	2,947,928	604	5	55	8.3
		1959	13,104	2,229,464	2,428,521	52,527	96,953	63.2	6,995,978	2,751,642	574	7	106	15.4
	Chic., Burl. & Quincy	1960	8,625	936,322	933,646	20,866	40,105	65.3	2,739,770	1,194,090	136	5	78	35.6
		1959	8,653	1,018,662	1,016,542	32,693	42,024	64.5	2,916,789	1,280,341	134	10	72	33.3
	Chic., Rock I. & Pac	1960	7,508	933,458	933,747	1,375	37,943	60.4	2,816,143	1,130,434	197	..	8	3.9
		1959	7,548	948,563	948,452	1,348	37,875	61.6	2,777,541	1,145,542	175	..	11	5.9
	Denver & R. G. Western	1960	2,128	283,945	300,352	27,176	13,138	74.5	922,068	461,283	83	3	10	10.4
		1959	2,128	261,274	276,345	22,862	12,384	73.7	858,487	422,291	81	8	7	7.3
	Southern Pacific	1960	8,010	1,935,814	2,014,722	130,538	91,213	66.2	6,231,738	2,708,225	701	31	39	5.1
		1959	8,014	1,882,097	1,947,184	116,740	87,075	64.6	5,960,771	2,517,729	634	6	39	5.7
	Union Pacific	1960	9,742	1,728,317	1,751,318	46,866	87,981	66.8	5,937,681	2,607,604	354	39	74	15.8
		1959	9,759	1,920,261	1,944,618	55,677	89,603	65.5	6,098,617	2,618,474	331	24	116	24.6
	Western Pacific	1960	1,188	244,384	248,779	12,139	9,365	71.5	623,121	289,288	50	1	2	3.8
		1959	1,189	217,797	222,558	25,142	8,882	69.0	595,906	268,569	43	2	1	2.2
Southwestern Region	Kansas City Southern	1960	886	120,732	120,795	21	7,376	64.4	560,322	259,150	22	..	1	4.3
		1959	886	129,506	129,646	563	7,931	66.4	593,435	279,371	25	..	1	3.8
	Louisiana & Arkansas	1960	746	75,573	75,573	4	3,720	63.3	297,532	142,305	14	..	..	..
		1959	746	63,752	63,752	22	3,278	65.7	257,426	125,475	13	..	..	..
	Mo.-Kans.-Texas Lines	1960	2,915	219,078	219,078	2,065	9,496	60.7	711,518	302,870	58	..	1	1.7
		1959	2,914	197,368	197,368	1,793	9,929	62.0	727,394	314,593	62	..	3	4.6
	Missouri Pacific	1960	9,413	1,126,986	1,126,986	8,008	50,777	62.2	3,704,301	1,619,480	208	..	26	11.1
		1959	9,513	1,050,886	1,050,886	7,732	48,045	62.6	3,576,154	1,604,598	220	6	20	8.1
	St. Louis-San Francisco	1960	4,527	569,507	569,507	6,110	22,841	66.8	1,558,428	721,416	100	..	10	9.1
		1959	4,536	517,998	517,998	5,033	20,128	67.4	1,430,680	663,183	98	..	7	6.7
	St. Louis Southw. Lines	1960	1,554	341,512	341,512	4,199	16,072	67.6	1,057,367	472,658	52	..	1	1.9
		1959	1,554	313,415	313,415	3,973	14,918	70.0	939,163	419,819	54	..	1	1.8
	Texas & New Orleans	1960	4,079	562,504	562,504	20	26,200	65.0	1,845,518	828,165	141	..	..	..
		1959	4,154	584,731	584,731	455	25,642	63.8	1,818,339	805,900	139	..	1	.7
	Texas & Pacific	1960	1,819	285,232	285,232	2,803	13,231	61.7	995,564	370,805	37	..	2	5.1
		1959	1,822	277,795	277,795	2,557	12,872	59.7	980,383	365,131	37	..	1	2.6

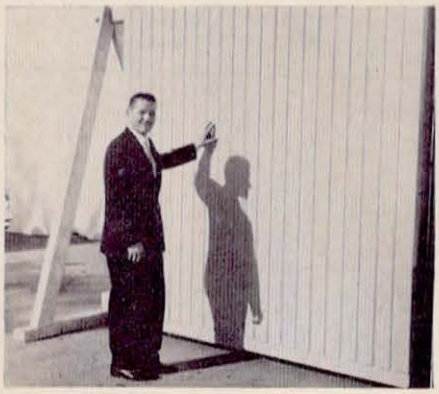
For the Month of February 1960 Compared with February 1959

	Region, Road and Year	Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos and tenders	G.t.m.per train-mi. excl.locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine 1960	2,296	7,796	10,092	3.5	40,460	2,526	984	28.3	725	43.1	4,759	16.0	81.2
	1959	2,346	8,238	10,584	3.8	41,191	2,693	1,065	28.3	768	44.7	4,854	15.3	81.4
	N. Y., N. H. & Hartfd 1960	4,203	12,641	16,844	8.9	38,747	2,385	942	26.7	454	27.4	4,513	16.2	135.9
	1959	3,143	12,596	15,739	5.3	42,583	2,594	1,042	26.5	550	32.4	4,759	16.4	115.0
Great Lakes Region	Delaware & Hudson 1960	5,103	4,236	9,339	7.3	61,644	3,368	1,671	32.8	971	45.9	12,142	18.4	168.8
	1959	4,619	5,731	10,350	10.5	62,896	3,687	1,847	36.3	904	39.2	12,627	17.2	153.7
	Del., Lack. & Western 1960	5,768	8,648	14,416	11.5	53,740	2,941	1,231	29.3	639	34.0	9,950	18.5	143.6
	1959	6,428	8,217	14,645	8.7	51,836	2,772	1,154	28.6	625	33.9	10,019	18.9	150.5
	Erie 1960	10,393	15,001	25,394	9.4	71,386	3,395	1,361	26.4	949	54.0	11,090	21.2	120.5
	1959	11,687	14,763	26,450	8.3	69,130	3,418	1,384	25.4	893	51.1	10,457	20·4	111.7
	Grand Trunk Western 1960	5,081	7,391	12,472	6.5	54,839	2,462	947	27.9	527	33.1	6,886	22.4	109.7
	1959	4,994	8,217	13,211	5.7	50,103	2,509	1,002	29.6	552	31.4	7,580	20.1	97.7
	Lehigh Valley 1960	6,313	8,808	15,121	11.3	63,530	3,058	1,382	31.3	574	28.4	7,756	21.0	212.5
	1959	7,221	7,826	15,047	10.6	61,346	3,005	1,354	30.7	570	28.4	7,610	20.6	214.9
	New York Central 1960	60,810	72,170	132,980	8.9	57,894	3,322	1,369	33.1	681	36.8	8,860	17.6	167.8
	1959	68,084	78,108	146,192	9.0	52,096	3,080	1,383	33.9	678	34.5	9,094	17.1	166.3
	New York, Chic. & St. L. 1960	9,412	14,339	23,751	14.2	59,449	3,262	1,412	31.8	1,152	58.0	13,095	18.4	161.8
	1959	10,003	14,235	24,238	15.0	56,752	3,190	1,384	31.6	1,117	56.8	12,669	18.0	163.7
	Pitts. & Lake Erie 1960	5,515	6,471	11,986	6.9	57,943	3,909	2,312	55.9	355	10.2	19,290	14.9	116.4
	1959	8,326	4,648	12,974	8.6	55,086	3,358	2,072	56.4	301	8.5	18,103	16.4	128.5
	Wabash 1960	10,041	6,664	16,705	12.3	79,214	3,233	1,315	28.6	1,101	61.0	7,703	24.6	128.6
	1959	10,818	7,831	18,649	8.1	72,763	2,938	1,151	27.4	1,009	60.0	7,940	24.9	155.4
Central Eastern Region	Baltimore & Ohio 1960	58,772	38,782	97,554	12.5	52,380	3,339	1,579	36.7	685	31.7	11,072	15.6	114.4
	1959	61,960	36,635	98,595	17.7	54,548	3,466	1,638	38.2	659	29.3	11,410	15.9	98.5
	Bessemer & Lake Erie 1960	5,110	1,184	6,294	7.3	59,025	4,271	2,622	63.5	601	14.9	17,414	14.6	139.4
	1959	4,693	923	5,616	13.0	53,168	3,388	2,016	60.0	440	11.8	11,781	16.6	113.4
	Central RR Co. of New Jersey 1960	4,544	10,014	14,558	19.4	46,961	3,159	1,686	42.7	396	14.9	9,747	15.4	76.0
	1959	3,995	8,991	12,986	16.0	39,955	2,746	1,371	37.9	377	15.7	7,582	15.3	79.0
	Chicago & Eastern Ill. 1960	3,308	2,476	5,784	17.0	73,184	3,896	1,947	39.9	1,121	46.5	7,661	18.9	117.1
	1959	2,964	2,768	5,732	13.4	61,461	3,472	1,747	38.8	1,220	49.3	7,684	17.8	145.0
	Elgin, Joliet & Eastern 1960	7,484	9,461	16,945	4.5	21,018	2,947	1,584	47.5	226	8.1	18,287	7.4	82.8
	1959	8,341	8,698	17,039	5.5	19,136	2,933	1,577	45.4	216	7.9	17,532	6.8	78.2
	Pennsylvania System 1960	105,079	91,611	196,690	11.7	53,784	3,219	1,460	34.4	632	30.0	12,607	17.2	139.3
	1959	134,922	68,022	202,944	22.1	53,956	3,158	1,431	33.7	579	27.6	11,892	17.5	129.5
	Reading 1960	16,398	15,964	32,362	18.0	52,849	3,354	1,749	46.4	530	20.2	13,012	15.8	71.0
	1959	19,762	15,454	35,216	24.1	50,503	3,217	1,652	44.4	444	17.5	12,103	15.7	65.6
	Western Maryland 1960	7,251	3,056	10,307	4.9	53,874	3,822	2,114	51.2	944	30.7	11,075	14.3	125.8
	1959	7,541	3,330	10,871	3.4	53,614	3,710	2,098	50.3	949	31.1	11,725	14.7	129.5
Pocahontas Region	Chesapeake & Ohio 1960	63,922	24,657	88,579	4.1	71,497	3,967	2,125	47.6	881	33.8	15,172	18.1	63.7
	1959	62,173	24,674	86,847	6.9	70,157	3,926	2,200	48.2	965	36.3	16,371	17.9	68.0
	Norfolk & Western* 1960	55,255	7,889	63,144	3.0	88,506	5,073	2,703	54.0	1,047	36.1	23,840	17.9	133.5
	1959	56,141	9,437	65,578	5.5	86,403	5,084	2,763	52.5	1,013	34.7	24,317	17.4	108.3
	Rich., Fred. & Potomac 1960	104	909	1,013	3.3	105,147	4,515	1,838	28.9	2,120	120.4	21,128	23.3	90.2
	1959	114	896	1,010	1.6	99,263	4,504	1,779	27.5	1,880	112.4	20,319	22.1	90.6
Southern Region	Atlantic Coast Line 1960	19,532	16,872	36,404	5.0	50,481	2,943	1,339	35.8	876	42.9	5,694	17.2	211.6
	1959	22,154	16,533	38,687	3.9	49,785	2,872	1,276	34.7	751	38.3	5,163	17.4	193.2
	Central of Georgia 1960	3,900	4,759	8,659	3.3	54,199	3,039	1,473	37.1	1,025	43.3	5,185	17.9	192.8
	1959	3,906	5,419	9,325	3.0	52,918	3,010	1,448	36.6	971	41.4	5,249	17.6	196.9
	Florida East Coast 1960	657	3,680	4,337	.7	44,927	2,921	1,018	7.0	728	51.2	5,566	15.4	66.1
	1959	814	4,502	5,316	.6	44,373	2,615	905	27.9	697	48.3	6,629	17.0	88.6
	Gulf, Mobile & Ohio 1960	7,233	9,252	16,485	6.5	78,507	3,974	1,889	34.3	982	43.8	5,953	19.8	101.6
	1959	7,453	8,904	16,357	5.7	74,871	3,959	1,868	33.8	993	45.2	5,903	18.9	102.0
	Illinois Central 1960	28,089	21,855	49,944	3.4	61,827	3,371	1,539	34.2	1,013	49.4	7,663	18.5	130.1
	1959	26,104	22,701	48,805	4.0	59,996	3,352	1,545	34.4	1,045	50.1	7,982	18.0	99.1
	Louisville & Nashville 1960	35,546	17,050	52,596	11.3	56,467	3,133	1,533	39.5	863	36.9	8,159	18.1	196.6
	1959	35,175	18,565	53,740	7.3	55,541	3,161	1,553	39.4	862	37.4	8,174	17.6	204.6
	Seaboard Air Line 1960	15,725	12,767	28,492	2.6	60,824	3,296	1,501	36.3	987	46.7	7,052	18.8	184.6
	1959	18,158	12,589	30,747	2.9	60,827	3,305	1,523	36.4	986	45.0	7,271	18.8	179.7
	Southern 1960	20,698	31,907	52,605	3.7	56,537	3,309	1,340	28.9	716	40.0	6,102	17.1	151.0
	1959	21,107	28,442	49,549	4.7	59,432	3,306	1,535	32.3	849	41.1	6,801	18.0	157.1
Northwestern Region	Chicago & North Western 1960	23,562	28,411	51,973	7.0	46,587	2,752	1,141	31.0	605	32.4	3,224	17.0	146.3
	1959	21,443	30,446	51,889	5.0	49,029	2,680	1,149	30.9	610	31.3	3,349	18.4	175.1
	Chicago Great Western 1960	2,516	3,838	6,354	3.8	66,799	3,583	1,682	33.0	1,130	51.2	5,128	18.7	175.7
	1959	2,283	3,640	5,923	4.1	70,789	3,771	1,781	33.3	1,362	60.9	5,585	18.8	186.3
	Chic., Milw., St. P. & Pac. 1960	27,426	21,194	48,620	5.3	66,410	3,278	1,448	31.6	772	38.3	3,523	20.3	158.9
	1959	31,014	28,047	59,061	3.8	61,126	3,139	1,374	31.2	663	34.6	3,687	19.5	104.7
	Duluth, Missabe & Iron Range 1960	12,080	995	13,075	1.7	29,529	2,048	982	42.8	68	3.4	1,552	15.3	14.1
	1959	14,055	731	14,786	4.7	21,382	1,421	590	34.5	32	2.0	847	15.6	16.2
	Great Northern 1960	23,888	17,239	41,127	3.2	65,223	2,977	1,342	32.7	980	46.4	4,739	22.0	111.6
	1959	23,663	20,082	43,745	3.1	56,261	2,678	1,218	31.6	877	41.2	4,527	21.1	116.8
	Minn., St. P. & S. Ste. Marie 1960	7,101	6,360	13,461	7.2	47,702	2,425	1,116	31.9	946	45.6	3,006	19.7	122.8
	1959	7,023	7,085	14,108	8.0	43,901	2,342	1,072	31.1	902	43.1	2,991	18.9	135.4
	Northern Pacific 1960	19,792	14,473	34,265	3.6	63,724	2,905	1,310	31.0	959	46.7	4,942	22.9	108.5
	1959	18,646	14,371	33,017	3.3	59,767	2,740	1,247	29.7	944	45.2	4,696	21.8	109.4
	Spokane, Portland & Seattle 1960	1,622	3,871	5,493	3.3	43,733	2,923	1,401	32.8	1,162	49.5	6,719	15.0	98.7
	1959	1,505	3,870	5,375	2.3	42,827	2,729	1,306	31.1	1,060	45.2	6,223	15.8	93.8
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.) 1960	52,785	31,532	84,317	4.1	79,434	3,100	1,226	29.3	1,216	67.1	7,838	25.7	143.7
	1959	52,865	30,481	83,346	6.0	79,225	3,154	1,240	28.4	1,202	67.0	7,499	25.2	136.4
	Chic., Burl. & Quincy 1960	26,579	18,710	45,289	3.9	65,705	2,944	1,283	29.8	923	47.5	4,774	22.5	158.9
	1959	23,740	23,734	47,474	3.7	63,495	2,910	1,278	30.5	963	49.0	5,284	22.2	178.8
	Chic., Rock I. & Pac. 1960	15,570	21,575	37,145	4.8	64,225	3,023	1,213	29.8	1,073	49.7	5,192	21.3	173.5
	1959	14,825	23,909	38,734	5.2	61,923	2,934	1,210	30.2	1,013	54.4	5,420	21.1	195.1
	Denver & R. G. Western 1960	8,236	6,817	15,053	5.2	66,696	3,254	1,628	35.1	1,073	41.0	7,475	20.5	127.7
	1959	8,055	5,816	13,871	5.8	70,489	3,292	1,620	34.1	1,102	43.9	7,087	21.5	117.3
	Southern Pacific 1960	30,168	36,267	66,435	2.6	74,201	3,252	1,413	29.7	1,348	68.6	11,659	23.0	104.0
	1959	33,451	36,368	69,819	2.4	69,981	3,202	1,352	28.9	1,316	70.4	11,220	22.1	116.8
	Union Pacific 1960	33,001	32,032	65,033	2.2	93,411	3,465	1,522	29.6	1,397	70.5	9,230	27.2	138.3
	1959	32,335	32,033	64,368	1.7	88,698	3,204	1,375	29.2	1,455	75.9	9,583	27.9	158.1
	Western Pacific 1960	2,568	2,037	4,605	3.8	73,900	2,573	1,194	30.9	2,038	92.2	8,397	29.0	174.5
	1959	2,725	3,062	5,787	2.5	76,644	2,751	1,240	30.2	1,720	82.4	8,067	28.0	199.7
Southwestern Region	Kansas City Southern 1960	2,110	5,604	7,714	5.5	98,805	4,664	2,157	35.1	1,154	51.0	10,086	21.3	223.9
	1959	2,673	5,086	7,759	6.6	99,754	4,625	2,177	35.2	1,279	54.7	11,261	21.8	209.4
	Louisiana & Arkansas 1960	1,734	3,464	5,198	6.7	79,682	3,950	1,889	38.3	946	39.0	6,578	20.2	183.1
	1959	2,079	2,954	5,033	7.2	82,297	4,058	1,978	38.3	884	35.1	6,007	20.4	185.0
	Mo.-Kans.-Texas Lines 1960	5,352	5,361	10,713	9.9	60,767	3,254	1,385	31.9	953	49.3	3,583	18.7	143.3
	1959	5,456	6,817	12,273	9.2	62,598	3,703	1,602	31.7	882	44.9	3,856	17.0	119.2
	Missouri Pacific 1960	25,667	21,073	46,740	7.0	72,039	3,300	1,443	31.9	1,216	61.2	5,933	21.9	181.6
	1959	23,689	21,671	45,360	9.3	71,875	3,425	1,537	33.4	1,292	61.8	6,024	21.1	166.1
	St. Louis-San Francisco 1960	11,986	8,538	20,524	1.7	59,130	2,746	1,271	31.6	1,168	55.4	5,495	21.6	203.9
	1959	12,419	7,799	20,218	2.5	58,849	2,772	1,285	31.4	1,081	51.1	5,222	21.3	199.2
	St. Louis Southw. Lines 1960	2,129	3,462	5,591	5.0	78,156	3,102	1,387	29.4	2,892	145.4	10,488	25.2	241.3
	1959	2,465	4,500	6,965	3.2	73,452	3,002	0,342	28.1	2,132	108.2	9,648	24.5	230.6
	Texas & New Orleans 1960	7,015	14,979	21,994	2.4	80,972	3,296	1,479	31.6	1,345	65.4	7,001	24.7	144.7
	1959	6,782	14,845	21,627	1.5	77,548	3,127	1,386	31.4	1,355	67.6	6,929	24.9	155.8
	Texas & Pacific 1960	3,678	5,536	9,214	4.1	83,682	3,508	1,307	28.0	1,378	79.7	7,029	24.0	270.2
	1959	3,465	5,860	9,325	4.2	80,097	3,544	1,320	28.4	1,394	82.3	7,157	22.7	281.2

* Includes operations of Virginian Ry. Co., merged into Norfolk & Western Ry. Co., December 1, 1959.

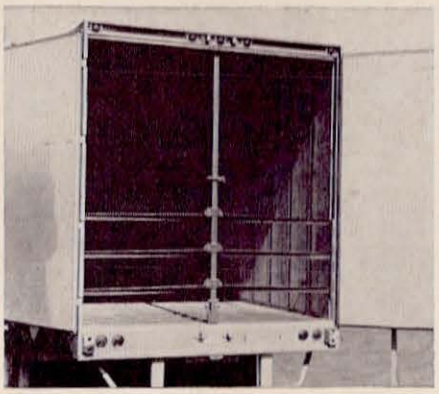
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

New Products Report



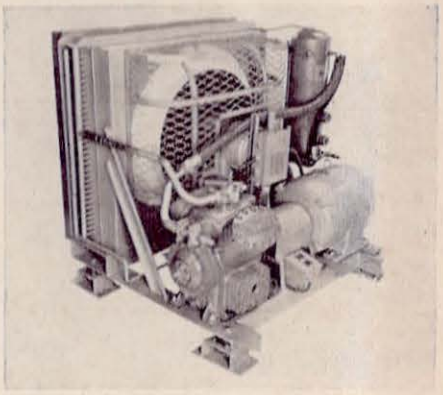
Plastic Car Door Liners

Door liners for the latest PFE reefers are largest moldings ever made of plastics. Use of plastics it is said, improves insulation and saves from 400 to 500 lb. in door weight. Doors are 9 ft. 3 in. by 8½ by 8-5/16 in. thick. Inside each an 89-lb molding of Koppers Dylite expandable polystyrene forms a moisture-proof insulation. Vacuum-formed liners are of Borg-Warner Cycolac plastic. *Landis Industrial Co., Dept. RA, Santa Clara, Cal.*



Door Protector

Dorsaver is a folding steel grid that is positioned between trailer doors and cargo to absorb the shock and stop door damage. It is constructed of heavy reinforced steel. Six hinged arms pivot at the square center post and lock in channels at the door sides. The unit is adjustable in heighth and width, folds to 2½-in. thickness, and weighs 125 lb. *Rail-Trailer Company, Dept. RA, 221 North LaSalle Street, Chicago 1, Illinois.*

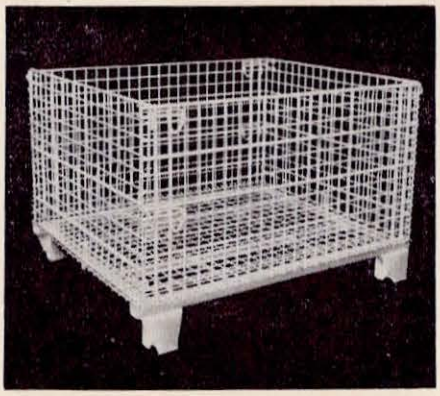


Reefer Unit

A high-capacity mechanical refrigeration assembly, using separate motor and compressor for refrigerator cars, operates between −10 and 70 deg F. Its 5F40 compressor, which automatically starts unloaded, is driven by a 15-hp electric motor. A centrifugal fan with backward curved blades guards against overloading evaporator fan motor. Prismatic sight-glasses permit check of liquid level in receiver. *Carrier Corp., Dept. RA, Carrier Parkway, Syracuse 1, N.Y.*

Shock Indicator

An overload indicator, when mounted with sensitive equipment in a box, crate or container, indicates any excessive shock which may have occurred in transit. The shock trips a spring-loaded mass which bares a red color spot behind a clear plastic cover. Two of the 1½-in. by 1½-in. units, mounted back to back, provide full spherical sensitivity. *General Dynamics Corp., Convair div., Dept. RA, 3595 Frontier St., San Diego 10, Cal.*



Loadtainers

Collapsible wire mesh boxes for use in production, warehousing or shipping are available in two different types, which vary mainly in leg design and may be stacked interchangeably. The boxes, which fold to pallet height for easy storage, have a basic capacity of 2,000 lb, which may be increased to 4,000 lb without change in size. *Republic Steel Corp., Berger div., Dept. RA, 1038 Belden Ave., N.E., Canton 5, Ohio.*

Platform Truck

The Model F-10 truck is especially adaptable to baggage handling because it is small enough to maneuver between trains. It features a 9.2-hp air-cooled Wisconsin engine, industrial driveshaft, and full torque shifting constant mesh transmission. The unit is 40 in. wide and 84 in. long. It has a cargo area of 18 sq ft, a truck capacity of 1,000 lb, and, fully loaded, is said to climb an 18% incline. *Prime Mover Co., Dept. RA, Muscatine, Iowa.*

Shippers' Guide

Baltimore & Ohio

. . . Extends "Tofcee"

Experience gained in utilization of articulated 110-ft two-trailer "wheel-pocket" piggyback flat cars has led to decision to acquire 18 smaller "wheel-pocket" cars, each equipped to carry a single trailer.

The B&O is negotiating with the Reading and the Western Maryland to initiate TOFC service between Reading points and locations on the B&O, and expects to make the service available by mid-summer.

Canadian National

. . . Freight Schedules

Has issued new and revised schedules of fast freight trains.

Chesapeake & Ohio

. . . Service Changes

Has inaugurated direct LCL merchandise car lines from Logan, Ohio, to Gallipolis, Ohio (tri-weekly); from Chicago to Flint, Mich.; from Ashland, Ky., to Saginaw, Mich., to Chicago (CB&Q), and to Chicago (CMStP&P); and from Grand Rapids, Mich., to Newport, Vt. (CPR).

Frisco

. . . LCL Schedules

Has issued a new brochure listing "Through Package Car and Coordinated Rail-Truck Services to and from Points on and beyond the Frisco Railway." Copies are available from R. C. Grayson, manager motor transportation and TOFC service, Springfield, Mo.; H. H. DeBerry, general superintendent transportation, Springfield; or W. L. O'Toole, merchandise traffic manager, St. Louis.

Illinois Central

. . . Truck Service

Has received authority from the ICC to substitute motor for rail service between Jackson, Miss., and New Orleans; also between Hammond, La., and Baton Rouge.

Lackawanna

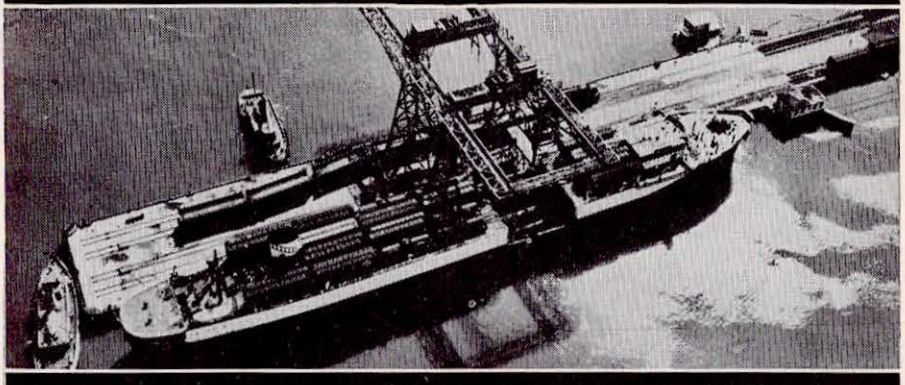
. . . Speeds Freight

Has revised schedule of its train "Satellite NE-3" to provide later departure from Hoboken, N. J., with corresponding revision of connecting schedules from Boston, Mass. The new timing will permit inclusion in the train of a greater number of piggyback trailers from the metropolitan New York-New Jersey area, and also afford competitve departure and service from New England to both Chicago and St. Louis.

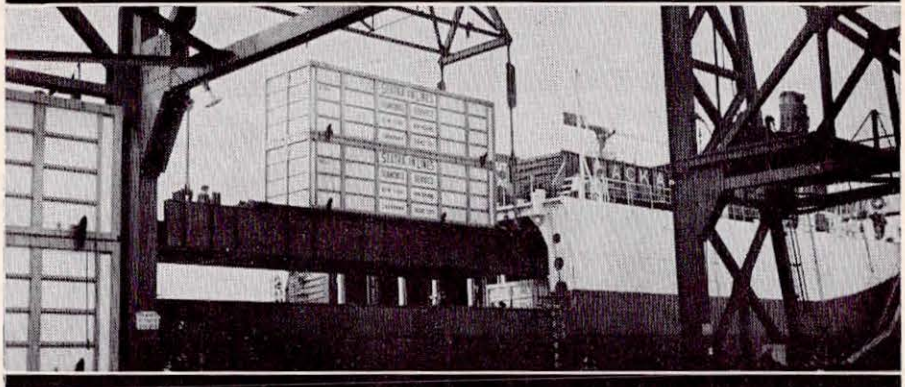
(Continued on page 60)

DOES it always pay to specify the low-cost carrier?

This low-cost carrier gives high grade transportation!

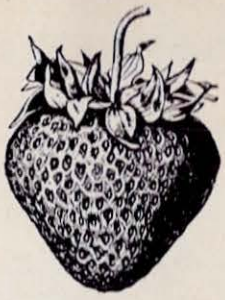


It's time to take advantage of 'inherent advantages'!

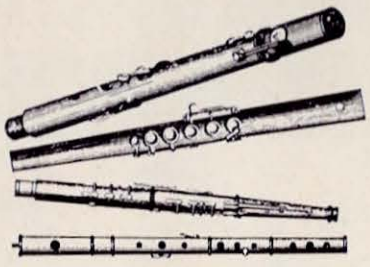


Float your inventory!

SEATRAIN LINES General Offices: 595 River Road, Edgewater, N.J.
Offices in: Boston, Savannah, New Orleans, Houston, Dallas, Philadelphia



For shipping fruits



or flutes

or two pants suits

The better way is Santa Fe

No matter what you ship call the nearest Santa Fe Traffic Office and let the longest railroad in the U.S.A. go to work for you.

Santa Fe

SHIPPERS' GUIDE

(*Continued from page 59*)

Under the new schedule, NE-3 leaves Hoboken 11:45 p.m., EST, arrives Buffalo 12:15 p.m., EST, first day; Chicago (via Nickel Plate), 3:45 a.m., CST, second morning; and St. Louis (also via NKP), 8:45 a.m., CST, second morning. Boston connection via New Haven and L&HR closes 3:30 p.m., leaves 4:30 p.m. Boston & Maine-Delaware & Hudson connection closes 4:30 p.m.; leaves 6 p.m.; picks up trailers at East Fitchburg and East Deerfield.

Monon

. . . Expands Piggyback

Has increased its piggyback ("Trailer Maid") program, with expansion of Plan I service to provide full facilities between Hammond, Ind., and Indianapolis, Louisville, Nashville, Memphis, Birmingham, Montgomery, Pensacola, Mobile, New Orleans, Chattanooga and Atlanta. Has established a drop and pick-up location for trailers, with full clerical, inspection and interchange facilities, at headquarters of Midwest Motors Service, 4915 S. Campbell Ave., Chicago. Monon now offers all TOFC plans except IV.

Milwaukee

. . . New Flexi-Van Equipment

Is receiving 25 new 85-ft Flexi-Van cars; 40 bogies, and 75 vans, to bring its total fleet to 64 cars and 190 vans. The new vans include five 36-ft seagoing units with special gear for shipboard handling, and 70 40-ft units—45 insulated, 10 open-top, 10 with side and end doors and five high-volume, with inside height of 9 ft.

Reading

. . . Freight News Letter

"To improve its sales and service efforts" and keep its traffic and supervisory personnel "better informed about the Reading and the railroad industry," the Reading has begun to publish a monthly freight news letter, called "Looking Ahead."

Seatrain Lines

. . . Moves Headquarters

Has moved its headquarters and executive offices from New York City to 595 River Rd., Edgewater, N.J.

Southern Pacific

. . . Development Brochure

Has published a 14-page brochure, in four colors, outlining the development and plant location services which it makes available to site-seeking industries. Two pages are devoted to SP equipment and transportation services.

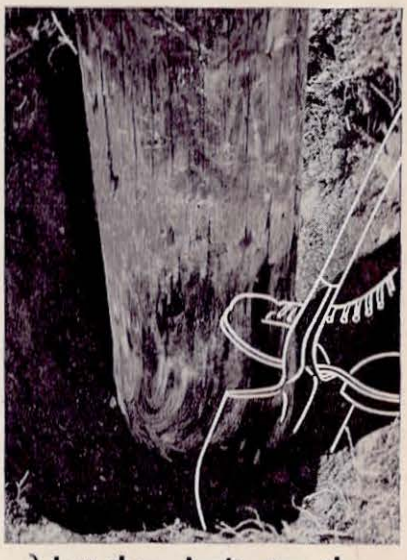
OSMOSE

POLE INSPECTORS

DIG

for their

ANSWERS



. . . but they don't stop there,

THEY FINISH THE JOB!

Regardless of species or original treatment, every older in-place pole is a prime target for groundline decay. Records prove it. And there's no short cut to inspection. It's literally a case of digging for answers. The first 18 inches will quickly tell the story to experienced OSMOSE Inspectors.

Inspection without treatment merely observes decay as it progresses. Often enough, such methods actually encourage decay. The OSMOSE method not only locates decay, but halts and prevents it. This is the big difference between common "inspection-only" practices and the OSMOSE Inspection and Treatment method.

Hundreds of utilities know that the OSMOSE way is the only sure, safe way to keep older poles standing for many more years of trouble-free service. And the cost is remarkably low. Actual field reports show that the OSMOSE Inspection and Treatment Program can pay for itself if only 3 to 6% of your older poles can be saved from becoming "rejects". Get all the money-saving facts, write: Osmose Wood Preserving Co. of America, Inc., 981 Ellicott St., Buffalo 9, N. Y.

Osmose®

SERVING RAILROADS SINCE 1935

Cook-outs start where the WM rolls

Kingsford Charcoal, a popular favorite with cook-out chefs, comes from a modern plant in West Virginia.

And there are a lot of sound reasons for locating here, where the Western Maryland rolls...

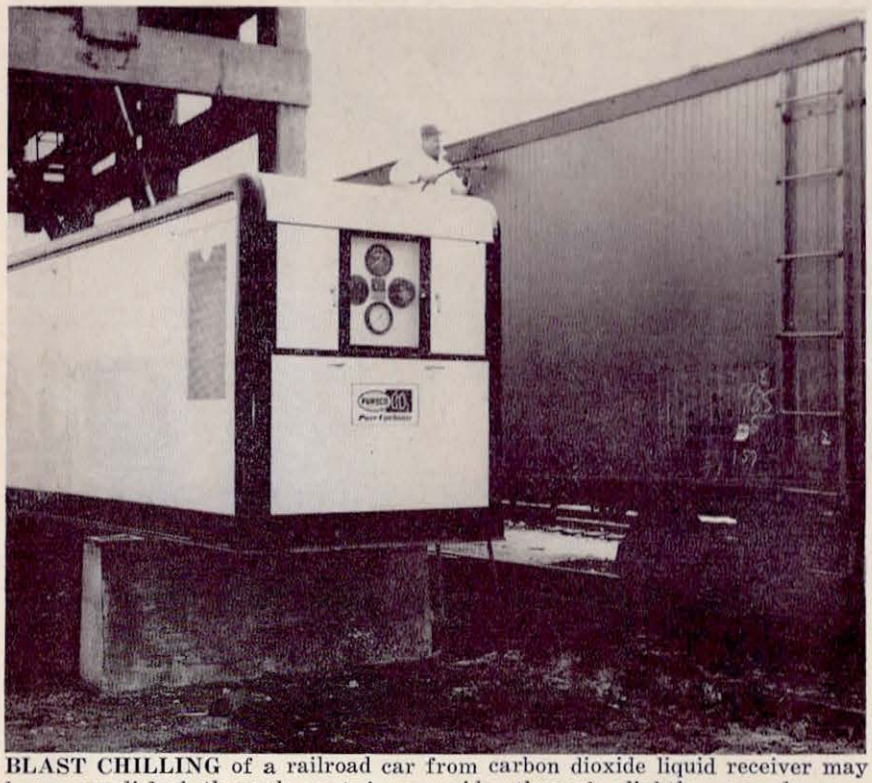
West Virginia has everything a big plant needs. Raw materials in abundance. Water... coal... and cheap power. Skilled and unskilled workers who are proud of their homes... their communities... their *jobs*.

What's more, there's the quick, efficient transportation that comes from being located on the progressive WM, one of America's truly up-to-the-minute railroads.

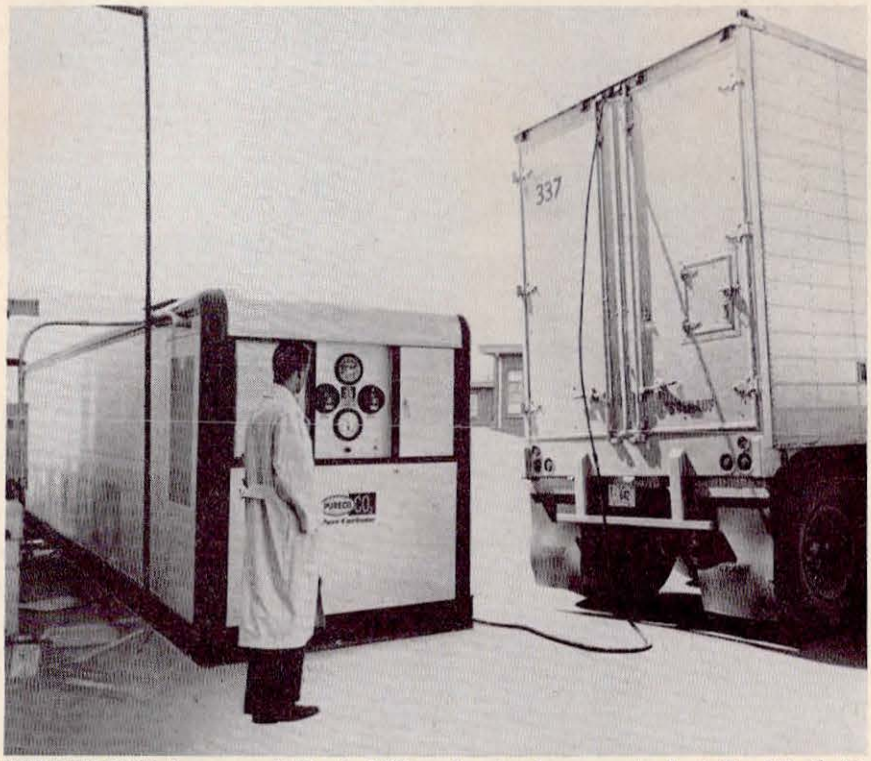
This railroad offers all industry a complete plant site selection service. For friendly, capable help in locating along its lines, phone or write:

300 St. Paul Place, Baltimore 2, Md. — Short Cut for Fast Freight

'Blast Chilling' Guards Perishables



BLAST CHILLING of a railroad car from carbon dioxide liquid receiver may be accomplished through vent in car side, through slightly open door, or through ice bunker.



EQUIPMENT for use of blast chilling is simple; easy to install. All that's needed is a storage tank, hose or piping, and outlets located to spray "snow" over top of load.

► The Story at a Glance: Almost instantaneous pre-shipment cooling of perishable foods by "blast chilling" saves carrier vehicle time; cuts down use of conventional refrigerating equipment; protects lading. Here's how the new process works; what it does; and how it can be applied.

A new high-speed cooling technique, developed by the Pure Carbonic Co., is winning acceptance by commercial carriers of fresh and frozen food products.

The new method, called "blast chilling," utilizes a jet of carbon dioxide (CO_2) liquid to bring temperatures within railroad cars, trailers, or other carrier vehicles down to proper shipping temperatures immediately after cargo has been loaded.

Within minutes after the CO_2 is released under pressure in the form of "snow" or pulverized dry ice, the temperature inside the vehicle plummets to as low as —60° F. The size of the nozzle used to blast the CO_2, the capacity of the vehicle, and the length of time "snow" is emitted determine the temperature drop.

After this initial pull-down period, the temperature gradually rises until it reaches a thermostatic setting point where conventional refrigeration methods can take over to hold the required temperature.

This fast cooling is one main advantage of blast chilling. By eliminating the long after-loading heat pull-down period generally necessary with other refrigeration systems, blast chilling allows the carrier to leave the loading dock immediately with assurance that proper temperature has been attained.

Elimination of the pull-down period is advantageous also for other refrigerating systems used in conjunction with blast chilling. With loading heat removed immediately, a mechanical system, for example, is not required to run steadily for the first four to six hours. Instead, it starts its normal cycling period about an hour after loading.

This saves operating time and fuel; cuts maintenance time and cost because of the reduced work load demanded of the equipment, and shortens defrosting time. Possibly, too, a smaller mechanical unit could be utilized,

with the major pull-down job eliminated.

Hold-over plate systems (in which brine is run through piping connected to refrigeration storage plates) realize a longer effective period when a transport is blast chilled. In some cases, fewer plates are needed because the extra-heavy duty of removing loading heat is eliminated. A vehicle using this type of refrigeration requires (with blast chilling) less defrosting, and can be put back into service faster after the plates have been defrosted.

Users of dry or wet ice also benefit by having the extreme heat absorption problem removed, since the initial icing holds for longer periods.

The new process also makes it possible for railroad cars to be given faster turnaround, and to make more trips, because of shorter cooling time. In some instances, reicing and salting can be avoided, saving both reicing charges and switching time en route.

Dry Air Protects Freight

A second major advantage claimed for blast chilling is the replacement of warm, moisture-laden air in the vehicle with a cold, dry CO_2 atmosphere. This insures drier cargo, and protects it with a blanket of shielding gas in which bacteria remain dormant.

Blast chilling is applicable to any transport operation—rail, truck, piggyback; long haul or short—and to all types of food requiring refrigeration.

Equipment used to haul fresh products has been blast-chilled from +60° F after loading to —20° in three minutes. Forty-five minutes later the temperature was up to +33° F. This was then maintained by a mechanical unit which did not have to operate until this time. (The extreme low initial temperature is momentary. Heat absorbed by the CO_2 atmosphere as soon as it comes in contact with the lading quickly brings the temperature up to where it will not damage fresh vegetables and meats. This "rebound" can be determined by the amount of CO_2 injected into the car.)

Frozen products have been blast chilled upon loading with a resultant temperature drop from +36°F to —68° F.

Fresh meats retain color and dryness for an extended period. In some instances, time in chill rooms can be reduced, permitting earlier shipments.

"Heat shock" (absorption of heat by the product) is virtually non-existent, since there is no excessive heat for the load to pick up until the vehicle's regular refrigeration system gains control. This is especially advantageous with highly perishable foods like ice cream. Cartons remain firm and dry, further reducing the possibility of damage.

Adoption of the blast chilling process is simple. The only equipment required is a CO_2 liquid storage tank of suitable capacity, hose or piping from the tank to points of use, and proper discharging outlets. These may be put through fittings in the vehicle wall, or a lance may be inserted through the partially open door, or, in a railroad car, through the icing door of a bunker and the bunker itself. The discharge should be positioned to allow the "snow" to spray over the top of the load.

Operating personnel should be alerted to the fact that they are handling a hose with about 300 psi CO_2 pressure, and to take proper safety precautions.

A great deal of research is going into application of blast chilling as a sole refrigerant for perishable ladings. It appears possible that a car or truck could be loaded, blast chilled, dispatched and "boosted" at chilling stations strategically located along its route. The system offers a dependable refrigerant with no weight or space problem; greatly reduced capital outlay, fuel and maintenance; and increased payload capacity.

SLASH GROWING FORK-LIFT TRUCK MAINTENANCE COSTS . . .

Convert to Suburban Propane Motor Fuel

Unlike gasoline, Suburban Propane (LP-Gas) is completely vaporized before it enters engine cylinders. There is no liquid to wash down cylinder walls . . . no carbon deposits . . . no oil dilution . . . no crankcase sludge.

Engine stays clean and, therefore, lasts longer. Maintenance costs are reduced 50% . . . oil life is tripled . . . engine performance is smoother and quieter than with gasoline.

SLASH REFUELING COSTS

Fork-lift trucks can be refueled *on the job* in ONLY 30 seconds.

Close to 100 Suburban Propane plants to serve you in 18 eastern and central states. For details complete and mail coupon below.

SUBURBAN PROPANE GAS SERVICE
General Offices Whippany, N.J.

SUBURBAN PROPANE GAS SERVICE Whippany, N.J.
Dept. RA660
Gentlemen:

I would like more information about Suburban Propane Motor Fuel.

NAME & TITLE .....

NAME OF COMPANY .....

ADDRESS .....

..... PHONE NO. .....

How did HE move up so fast?

Why do some men get ahead faster than others? Usually because they have better technical training.

Fortunately, it's not difficult to learn new skills for your present railroad job—or prepare for better jobs in railroading. You can do it at home—in your spare time—through the excellent technical training service offered by the Railway Educational Bureau.

The Railway Educational Bureau was organized over 50 years ago by the Union Pacific Railroad. A few years later, it became an independent organization in order to serve employees on all American Railroads. Today more than 70 American Railroads co-operate in making the Bureau's wide scope of service available to their employees. On the Bureau's Individual Service Plan, instruction, assignments and evaluation are handled entirely by mail. The low enrollment cost (less than 14¢ per day) entitles you to a very wide selection of subjects.

SEND THIS COUPON

We will mail you full details. Remember —*study clears the road to progress!*

The Railway Educational Bureau
1809 Capitol Avenue, Omaha 2, Nebraska

I am interested in subjects related to the railroad jobs checked below. Please send full details. I understand this inquiry will not obligate me in any way.

- ☐ Machinist
- ☐ Electrician
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- ☐ Sheet Metal Worker
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- ☐ Boilermaker
- ☐ Blacksmith
- ☐ Apprentice
- ☐ Lineman
- ☐ Wireman
- ☐ Fireman
- ☐ Engineer
- ☐ Draftsman
- ☐ Signal Maintainer
- ☐ Engineering Dept.
- ☐ Mechanical Dept. Office
- ☐ Official, Supervisor, Foreman, Chief Clerk
- ☐ Other (please specify)

Name_____

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Address_____

City_____ Zone____ State____

Letters from Readers

Industrial Development

Chicago

To the Editor:

Your article in the May 30 issue entitled "Industrial Development Pays Off" was indeed informative although the accompanying table detailing the new and expanded industries located on lines of selected railroads in 1959 can be subject to misinterpretation. The railroads have varying ways of measuring the extent of their industrial development activity which are not reflected in the table.

For example, the Burlington figure for new industries included only *purchases* of railroad-owned land for new plants, plus the location of new industries on lands of other ownership available to our service, but omitted 632 new industrial leases. Some of the railroads' figures include industrial leases as well as purchases, while others include only those leases above a certain dollar value. So the performance of individual railroads as listed in the table are hardly comparable, although a listing of this kind obviously does invite comparison.

O. O. Waggener, Director
Department of Industry and Agriculture
Chicago, Burlington and Quincy

Service to Readers

Portland, Ore.

To the Editor:

As an added service to your readers, I note you have provided a list of newly elected officers of Regional Shippers Advisory Boards on page 18, April 25 issue of Railway Age.

All of us appreciate your thoughtfulness.

W. C. Cole
President
National Association of Shippers Advisory Boards

Crying—or Fighting?

Hinsdale, Ill.

To the Editor:

There must be an inconsistency somewhere in this set of circumstances: (1) Government treatment of the industry, according to every official investigation that has been made over the past 30 years, contains elements of unfairness to the railroads and of favoritism to their competitors. (2) During recent months there has been discernible improvement in public attitude toward the railroads, and this change seems to have come about following events such as the "Outrage" issues of Railway Age, a stiffer policy in the industry's institutional advertising, and the declared intention of abandoning certain suburban lines in the East unless regulation could be eased in some form. (3) The latest argument continues to crop up occasionally as to the wisdom of the industry's standing up for its rights. Some believe the industry should combat injustice with every means at its disposal. Others call this a "crying" approach to the problem. They favor doing the best job possible with existing tools and leaving legislation alone.

Are there not two points that need clarifying in this situation? In the first place, is there not a big difference between crying and fighting? Every school boy knows the difference. One is never called for, the other sometimes is. Second, why must "doing the best job possible with the existing tools" and "seeking better legislation" be looked upon as alternatives?

Why must it be one policy or the other?

Why can't an industry seek more equitable legislation and carry out internal improvements at the same time?

Hugh G. Dugan

Railroad Rules

New Haven, Conn.

To the Editor:

. . . I notice in the June 13 issue of Railway Age, on page 15, there is a continuation of the Railroad Rules subject that was started in the March 21 issue on page 18. This is certainly all to the good. You and your magazine are to be complimented on giving such good coverage to such an important subject . . .

A. J. Powers
Superintendent of Rules
New York, New Haven & Hartford

Current Publications

MODEL RAILROADER CYCLOPEDIA—VOLUME I: STEAM LOCOMOTIVES, edited by Linn H. Westcott. 272 pages, illustrations, drawings. Kalmbach Publishing Company, Milwaukee 3, Wis. $20.

127 individual locomotive plans are accompanied by several hundred photographs showing the engines in various stages of their development from the time they were new until they were scrapped. While the plans and photographs were primarily selected to aid the model builder, they were also chosen and arranged to give a continuous accounting of the development of the locomotive and its workings. This is a monumental work and one that all model builders will probably want to have in their libraries.

9% Traffic Increase Predicted

The following third-quarter traffic forecast was prepared exclusively for Railway Age readers by J. W. Milliken, director of research, Simmons-Boardman Publishing Corp.

Freight car loadings in the third quarter of this year should total about 7.8 million. This is an increase of only 9% from the corresponding period in 1959, when the steel strike began. We say "only", simply because some people apparently expect a greater rise from last year's strike-depressed third quarter.

Most forecasters, including this one, have been lowering their sights rather rapidly on the country's short term economic prospects ever since about March. Almost everyone overestimated the extent of inventory rebuilding that appeared to be necessary following the termination of the steel strike. Apparently, better inventory control, plus a number of other factors, made unnecessary the amount of stock rebuilding most business analysts had figured on. Consequently, there have been almost weekly downward revisions of forecasts—for carloadings in particular and the economy in general. As far as this crystal-ball gazer is concerned, steel, coal, ore and to a lesser extent stored grain, have been the main commodities whose movement volume he over-estimated rather substantially.

In the quarter ahead the brightest spot, relatively speaking, should be grain. Department of Agriculture forecasts indicate that the 1960 wheat crop probably will be the second largest in the country's history, leading to a pretty good movement of grain by rail. Building materials, on the other hand, undoubtedly will move in somewhat smaller volume than they did last year. Coal and steel carloadings will be up somewhat, but this is compared with the low level of last year when the strike was on for practically the whole of the quarter.

The outlook presently for the fourth quarter of the year is rather confusing. Plans for new capital expenditures seem to be wavering a little, according to the latest reports from the Commerce Department and the National Industrial Conference Board. (For the last several months the anticipated high level of capital expenditures has been one of the bullish elements in the economy.) The way things look now, conditions are about right for a mild upswing in housing starts in the last quarter. But if such a trend does materialize, it probably will occur so late as to generate little more than normal seasonal traffic in building materials. Coal and steel probably won't be moving at a rate much greater than they will during the third quarter. Therefore, about the best that one can see now, for the fourth quarter, is a loading level rather similar to that forecast for the third period of the year, approximately 7.5-8.0 million cars.

Our estimates of railroad purchases lag about three months behind being current. Our figures, based on reports from carriers, indicate that railroad expenditures for materials, supplies and fuel during the first quarter of 1960 exceeded those for the similar months of 1959 by 7%. However, with carloadings during the second quarter substantially below those for the same months last year, some drop in purchasing activity would seem to be in the cards. Nevertheless, buying during the third and fourth quarters should remain actively above levels prevailing last year. In other words, even though this will not be the biggest year ever for railroad buying, it still will be considerably better than 1959. And, perhaps best of all, purchases shouldn't fluctuate as widely, from month to month, as they did last year.

Change Sought in Safety Act

Operating men in Chicago are backing an amendment to the U.S. Safety Appliance Act, which, they contend, will eliminate expensive backhauls, car delay and shipper dissatisfaction and potential safety hazards sometimes involved in strict compliance with the present law.

The amendment, developed and approved by the Chicago Railroad Superintendents' Association, would change Section 4 of the Act to provide that "where any car shall have been properly equipped . . . and such equipment shall have become defective or insecure while such car was being used by such carrier upon its line of railroad, *or where such car was received in interchange from another carrier,* such car may be hauled *or moved* from the place where such equipment was first discovered to be defective or insecure to the nearest available point where such car can be repaired . . ." (Italics indicate proposed additional language.)

The present act, according to the association, requires a receiving road (in order to avoid penalty of ICC court action) to refuse acceptance in interchange of equipment with penalty safety appliance defects unless the receiving road can and does correct the defects on the interchange track where the car or cars are received from the delivering line.

Chicago superintendents have lived through some awkward examples of moves required by the existing Section 4:

- Road A delivers and pulls cars in interchange with Road B. Distance between Road A and Road B is about 19 miles. Interchange is consummated when Road A delivers to Road B yard and after inspection. If, by chance, a car with a safety appliance defect was overlooked, it would have to be returned 19 miles—back to Road A. But Road B has a repair point 500 feet from the interchange point.
- A similar case involved a return move of six miles to delivering line at a point where repair by receiving line could have been made with a move of only 300 feet. In this instance, the superintendents say, ICC inspectors told the receiving carrier that if the defective cars were placed on the adjacent repair track and repaired, both the delivering and receiving carrier would be subject to penalty.

The superintendents point out that "rejection and return of cars with penalty safety appliance defects would result in expensive back-haul on the delivering road and (would) delay shipments, creating consignee-consignor dissatisfaction and probable loss of business to the railroads as a result."

Why Germans Use Hydraulics

► **The Story at a Glance: U. S. railroad interest in diesel-hydraulic locomotives has increased sharply since two western roads placed orders for six such units late in 1959 (RA, Nov. 23, p. 9).**

The 4,000-hp German-built locomotives are slated for delivery early in 1961. Three will go to the Southern Pacific; three to the Denver & Rio Grande Western. Builder is Krauss-Maffei of Munich, Germany.

The following report is based on a talk given at the AAR Electrical Section and Mechanical Division meeting in San Francisco by Dr. G. Wiens, chief director of locomotives and cars of the German Federal Railway. The GFR has made extensive use of hydraulic transmissions since World War II.

Diesel-hydraulic locomotives are the only type of diesel motive power being acquired by the German Federal Railway. This is based on over 20 years' experience with this type of transmission.

As contrasted with U.S. roads, German rail routes are short and have extremely high freight and passenger traffic densities. The GFR has been electrifying many of the heavy-traffic lines, and a program of dieselization has been under way for all other routes.

Initially, German diesel developments involved rail cars. Prior to World War II, the GFR had developed a series of high-speed diesel rail cars. The first of these were equipped with electric transmissions, but many subsequent models were built with hydraulic transmissions. Minimum weight is of primary concern for rail cars.

For the low horsepower ratings of these cars, suitable hydraulic drives were available in the 1930's. The fluid drive had been developed by the German engineer Fottinger in 1903. By the mid-30's, it had been perfected for large marine and stationary applications. As compared with equivalent electric transmissions, according to Dr. Wiens, the hydraulic drive offered advantages with respect to weight, size and price.

The post-war era found the German railways with a large background of experience in the operation of the diesel-hydraulic rail cars. Repairs to the war-damaged fixed plant had to be accompanied by a motive power replacement program. Economy was of prime importance.

"For initial post-war programs, the hydraulic transmission was considered first choice, not only for use in rail cars, but also increasingly for high-power diesel locomotives. This was because of the transmission's low weight, small space requirements, and because of its initial cost—substantially lower than that of comparable electrical equipment," Dr. Wiens told the meeting.

"These hydraulic transmissions have a proven record of robust design, simplicity of control, and low maintenance. Because of their inherent characteristics, these transmissions provide effective protection against slipping of driving wheels. With this experience, the German Federal Railway, as far back as 1948, had the courage to decide exclusively in favor of the hydraulic transmission."

The GFR has five standard diesel-hydraulic locomotive designs ranging from a 650-hp switcher to a 4,000-hp road locomotive. These are expected to serve all motive power requirements of the non-electrified lines (see table). "The number of units, which for American conditions may appear on the low side, is explained by the fact that the GFR does not only dieselize, but also is going ahead with the electrification program," Dr. Wiens told the AAR groups.

Advantages of the diesel-hydraulic drive, Dr. Wiens said, does not mean that the GFR is unconditionally committed to it. "Technical development in the field of electric transmission is being watched continuously. A few years ago a study was made in which a diesel locomotive of 3,500 to 4,000 hp with electric transmission was compared with a diesel hydraulic locomotive of the same output.

"Even if the actual efficiency of the power plant of the diesel electric would be slightly higher, this advantage would be lost by the fact that the diesel electric with the same train heating plant and supplies for the same operating range, requires more axles with the maximum axle loads allowed in Germany. This means more weight, higher cost, and more wear."

Advantages of the hydraulic drive, as listed by Dr. Wiens, include the following:

- Minimum of wear because moving and stationary transmission parts do not contact each other, and because they operate completely immersed in oil and totally enclosed so there can be no other contamination;
- High torque conversion ratio which allows the building of multi-purpose locomotives with both high starting tractive effort and high maximum speed;
- High adhesions which can be achieved because all axles are mechanically coupled through the transmission;
- Absence of short time ratings because full power can be delivered at low speeds without developing high transmission temperatures;
- Tractive effort to the adhesion limit can be exerted at standstill without

(Continued on page 70)

Diesel-Hydraulics: Germany's 5 Basic Designs

Designation	Horsepower	Weight, tons	Top speed, mph	Wheel arrangement	Service	Built	On order
V-60	650	60.0	37.5	C	Switching	560	240
V-100	1,350	70.5	62.0	B-B	Road switching	7	360
V-160	2,000	81.6	75.0	B-B	Light passenger and freight	10	*
V-200	2,200	92.8	87.5	B-B	Medium passenger and freight	86	*
V-320	4,000	125.4	100.0	C-C	Heavy passenger and freight	—	1

*Additional purchases are planned.

MARKET OUTLOOK *at a glance*

Carloadings Rise 0.2% Above Previous Week's

Loadings of revenue freight in the week ended June 18 totaled 649,830 cars, the Association of American Railroads announced on June 23. This was an increase of 1,367 cars, or 0.2%, compared with the previous week; a decrease of 74,448 cars, or 10.3%, compared with the corresponding week last year; and an increase of 21,820 cars, or 3.5%, compared with the equivalent 1958 week.

Loadings of revenue freight for the week ended June 11 totaled 648,463 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, June 11

District	1960	1959	1958
Eastern	91,763	103,776	90,050
Allegheny	112,991	134,084	107,045
Pocahontas	58,596	60,481	52,076
Southern	115,347	114,079	112,550
Northwestern	105,378	114,935	90,019
Central Western	113,460	128,405	117,110
Southwestern	50,928	54,081	53,836
Total Western Districts	269,766	297,421	260,965
Total All Roads	648,463	709,841	622,686
Commodities:			
Grain and grain products	49,092	57,433	60,089
Livestock	3,962	3,610	4,974
Coal	116,680	121,059	115,201
Coke	7,220	11,198	5,691
Forest Products	40,030	40,423	38,231
Ore	73,600	81,620	50,638
Merchandise l.c.l.	35,875	40,637	44,215
Miscellaneous	322,004	353,861	303,647
June 11	648,463	709,841	622,686
June 4	574,301	680,617	613,381
May 28	640,388	687,063	529,779
May 21	636,808	686,152	570,425
May 14	639,954	692,996	561,040
Cumulative total, 23 weeks	13,848,877	14,272,211	12,576,637

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended June 11 totaled 11,239 cars, compared with 8,669 for the corresponding 1959 week. Loadings for 1960 up to June 11 totaled 242,407 cars, compared with 176,622 for the corresponding period of 1959.

IN CANADA.—Carloadings for the seven-day period ended June 7 totaled 78,065 cars, compared with 96,706 for the previous ten-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
June 7, 1960	78,065	25,987
June 7, 1959	83,032	27,946
Cumulative Totals		
June 7, 1960	1,532,709	1,547,801
June 7, 1959	649,002	626,263

New Equipment

FREIGHT-TRAIN CARS

► *Chesapeake & Ohio.*—Ordered 200 70-ton, 50½-ft box cars and 150 70-ton, 50½-ft insulated box cars from its Russell shops. All will be equipped with special loading devices. Delivery of the insulated box cars will begin in mid-September. Delivery of the regular box cars is scheduled to begin in November.

► *Grand Trunk Western.*—Ordered 75 70-ton steel flat cars from Ortner for late fourth quarter delivery.

► *Union Tank Car.*—Started construction of 12 type 112A400-W, 30,000-gal, 85-ft tank cars at its Whiting, Ind., plant. The cars, to be leased to Baton Rouge Refinery of Esso Standard, Division of Humble Oil & Refining Co., are scheduled for delivery in September.

PIGGYBACK

► *Trailer Train Co.*—Ordered 500 85-ft piggyback flat cars—250 from ACF, 150 from Pullman-Standard, and 100 from Bethlehem Steel. New order, scheduled for delivery by mid-August, will bring Trailer Train fleet to 4,659 cars. Order followed formal announcement that Great Northern and Northern Pacific have joined Trailer Train.

Maintenance Expenditures

► *Down 3.4% in April.*—Expenditures by Class I roads for maintenance of equipment, way and structures in April were down about $9 million, compared to the same month in 1959, according to report of AAR Bureau of Railway Economics summarized below:

	April 1960	*April 1959*	*% Change*
Maintenance of Way and Structures	$100,762,438	$107,035,867	—5.9
Maintenance of Equipment	151,891,185	154,628,282	—1.8
Totals	252,653,623	261,664,149	—3.4

Orders and Deliveries

► *Orders Decrease.*—Orders were placed in May 1960 for 2,234 new freight cars, compared with 5,551 in April. May 1959 orders totaled 5,203. Deliveries in May totaled 5,931, compared with 5,579 in April and 3,358 in May 1959. The backlog of cars on order and undelivered as of June 1, 1960 was 36,106, compared with 41,003 on May 1 and 36,869 a year ago.

Type	*Ordered May 1960*	*Delivered May 1960*	*Undelivered June 1, 1960*
Box—Plain	753	1,881	10,391
Box—Auto	0	0	500
Flat	212	780	2,253
Gondola	0	232	4,761
Hopper	500	2,323	11,100
Cov. Hopper	180	120	1,425
Refrigerator	150	212	4,163
Tank	438	215	1,171
Caboose	1	12	170
Other	0	156	172
Total	2,234	5,931	36,106
Car Builders	1,650	3,550	18,392
Railroad Shops	584	2,381	17,714

Job Freeze Peril to Industry: Loomis

Warnings that the recent Supreme Court decision on the job-freeze issue could lead to "appalling consequences" for all industry and retard further modernization of the railroads were heard last week at hearings on proposed legislation to counter the court's ruling.

The warnings came from President Daniel P. Loomis of the AAR and Chairman Ben W. Heineman of the Chicago & North Western. They made the railroad industry's presentation in support of the proposed legislation. The hearings were before a special subcommittee of the Senate Committee on Judiciary, and the bill under consideration (S.3548) is sponsored by the Senate's minority leader, Senator Dirksen of Illinois. It is also supported by the National Industrial Traffic League, which filed a statement with the subcommittee.

The court decision involved is that holding a union demand that no position be abolished without its consent is a bargainable issue under the Railway Labor Act, and that the Norris-LaGuardia Act prohibits injunctions against strikes to enforce such demands (RA, April 25, p. 9).

The court thus upheld the Order of Railroad Telegraphers in its job-freeze dispute with the North Western. The dispute arose over the road's central agency plan. This involves discontinuance of full-time agents at numerous small stations and provides, instead, for a centrally-located agent to perform necessary agency services at the central station and at neighboring stations.

The Dirksen bill would amend the Railway Labor Act, Norris-LaGuardia Act and the National Labor Relations Act. The amendments would stipulate that the bargaining areas of "working conditions" and "conditions of employment" would not include the creation or discontinuance of positions.

If the court decision is allowed to stand, it would reduce or block American industry's multi-billion-dollar plant improvement program, AAR President Loomis said. He added that the decision confronts the railroads with the threat of completely new "featherbedding" work practices.

Maintaining that Congress never intended its labor laws to allow unions to move into such a key managerial area, Mr. Loomis also said: "I cannot over-emphasize the magnitude of the power that this decision confers on the unions or the risk involved in allowing such power to exist unchecked."

Chairman Heineman of the North Western said the modernization of railroads since World War II, including dieselization, could not have taken place if management had agreed to a union demand for power to veto the discontinuance of surplus jobs.

As to its dispute with ORT, Mr. Heineman said the North Western "was at all times, and is now, ready to bargain over any and all aspects of cushioning the impact" of the changes made in its station set-up. ORT's only response, he added, "has been to insist upon its proposed veto power over the discontinuing of any positions."

The NIT League statement was submitted by the chairman of its legislative committee, Harry O. Mathews, who was manager of transportation for Armour & Co. He called attention to the league's policy position that "work rules which are inconsistent with modern operating practices and sound economic conditions in transportation should be eliminated."

How league support for "principles" of the Dirksen bill is in line with that policy was pointed up by Mr. Mathews in the remainder of his statement. "Since the North Western case," he said, "it is clear that amendment of labor laws along the lines proposed is absolutely necessary. Otherwise, labor unions will have the power to veto any unification or abandonment of service even though it has been authorized or is required by order of the Interstate Commerce Commission."

As the Publisher Sees It . . .

A highly successful part of the AAR Mechanical Division and Electrical Section meetings in San Francisco week before last was the exhibit of railway equipment on track down on Embarcadero. A "hot dog" tank car, incredibly long; many versions of piggyback rail and trailer equipment; the newest box cars with lading anchorage devices and shock absorbing draft gear; a giant straddle truck for transhipping containers—all brilliantly painted for the display—presented visible evidence that the railroads are on the go. San Francisco Chamber of Commerce officials were so impressed that they urged the Railway Electrical & Mechanical Supply Association to hold the exhibits over an extra day so that important members of the northern California civic and business community could have a look at this visible display of rail modernity. I know many railroad men and supply men too had the same impression as the Chamber, and I am sure that those important community members who went down as guests of the Chamber of Commerce—there were approximately 200 of them—went away assured of the forward strides that the industry is taking.

Much credit goes to the RE&MSA and its members for the arrangement of the track exhibits—as well as the equally interesting even though less spectacular ones at the Jack Tar Hotel. Special credit to the Association and its member supply companies for arranging the rather difficult last-minute hold-over for the public exhibition.

Robert S. Lewis

AIEE Holds Two Rapid-Transit Sessions at Summer Meeting

Changes in the rapid transit field—particularly in near-by Philadelphia—were discussed in last week's five day meeting of the American Institute of Electrical Engineers at Atlantic City, N. J.

Two of the seven traction papers presented in two symposiums covered the new fleet of 270 stainless steel rapid transit cars soon to be delivered for Philadelphia's Market-Frankford subway-elevated system. (These cars will be covered in detail in a special report in next week's Railway Age.) A third paper, "Economics of Electric Traction in Philadelphia," was presented by E. L. Tennyson of the city's Department of Public Property.

MORE FOR THE MONEY

(*Continued from page 48*)

Mr. Henry then described the establishment of annual programs on his road. Starting in November, the regional engineers assemble data for their work programs for the following year. This is obtained from the supervisors of track, structures, and communications and signals, who list their projects by mile posts. A detailed estimate of the cost is made for each item, as well as the number and type of machines required, the number of man-hours to be used, the importance of the work item, and the dates on which the work is to start and finish.

A tentative budget is submitted about the middle of December for the following year, after which it is submitted to the System Finance Committee for approval. The approved budget items are furnished in a bound pamphlet for each district.

On the third Tuesday of each month, Mr. Henry said, the regional engineers attend a budget meeting at the road's headquarters. At this meeting, each region is given a total amount that it may spend for the following month. The monthly allotments are directly related to the estimated revenues and vary from month to month in proportion to the traffic volume. The regions then revise their estimates to conform.

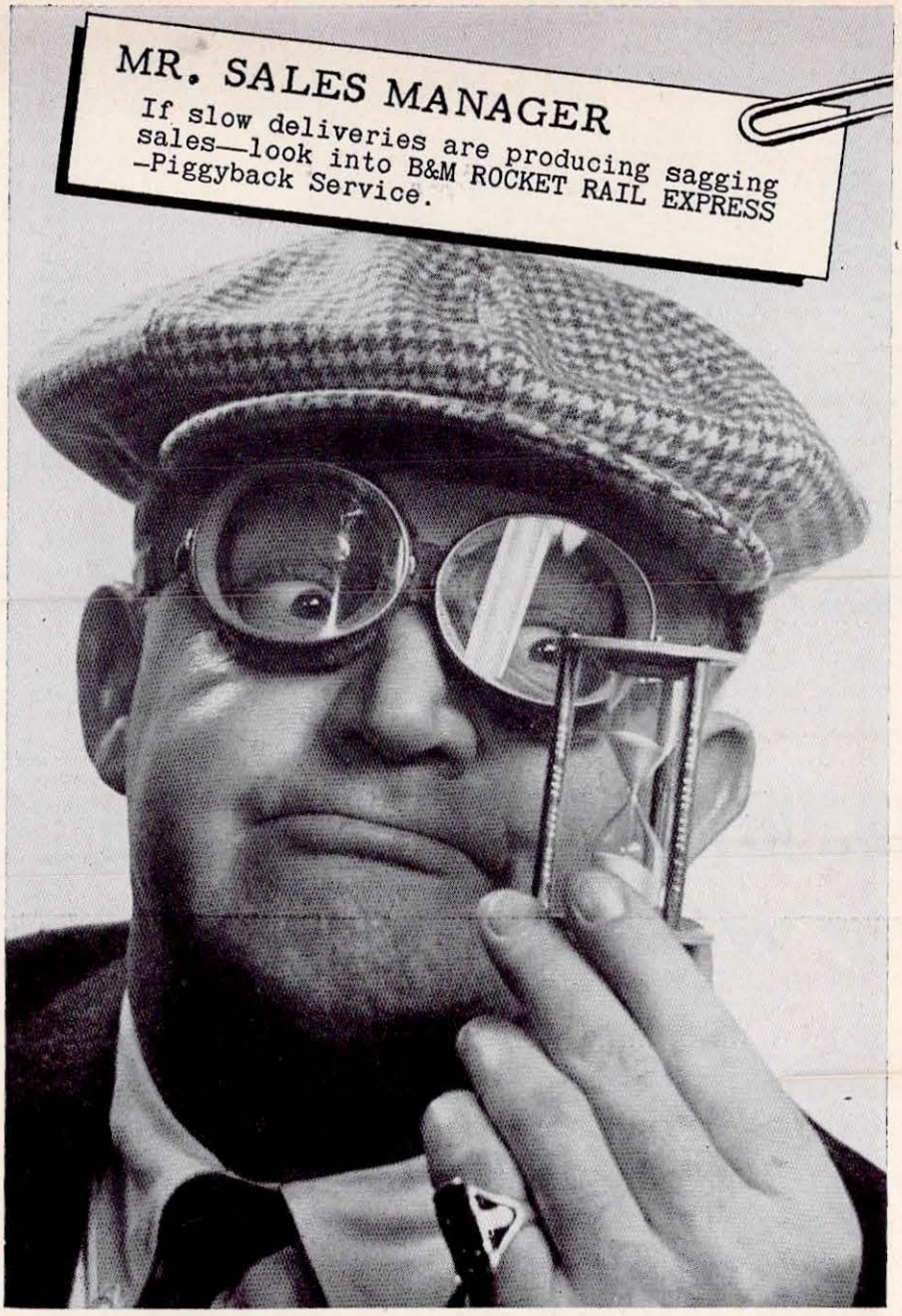
The principal controlling factors in any budget, said Mr. Henry, are men and materials. Also, to carry out program work, it is essential to have an annual inventory and inspection of machines. From this information, periodic overhaul work is programmed.

The methods of performing work on the Pennsylvania are subject to constant study. Costs of performing work also are subject to continuous analysis. Through such studies, Mr. Henry declared, data is obtained upon which to predicate future budget estimates.

Another means for controlling the program, he added, is through the use of monthly progress reports. At the same time, production and quality standards are followed through on-the-ground inspections made by system and regional officers.

Mr. Henry said in conclusion that one of the most important items in the programming of mechanized gangs is the complete cooperation of the traffic and transportation departments. This, he added, requires careful planning and education. He has found that illustrated lectures, during which cost data expressed in man-hours are presented, are helpful in getting across the maintenance man's story.

The seminar closed after the presentation of summaries made of each phase of the subject by three teams.



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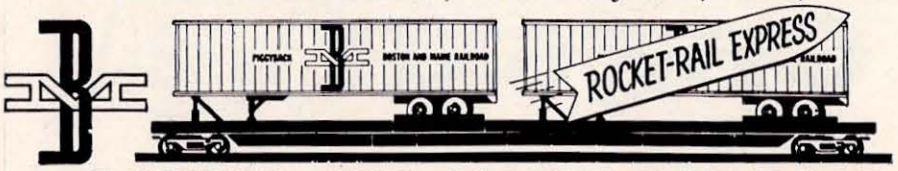

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DIESEL-HYDRAULICS

(Continued from page 66)

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697-Mile Route Proposed For Pacific Northern Railway

Upon completion of surveys and studies, a route and general plan for a railway from Summit Lake near Prince George, B. C., to the British Columbia-Yukon Territory border has been submitted to the Pacific Northern Railway. Plans for the 697.15-mile route were prepared by Col. Sidney H. Bingham of New York.

The Pacific Northern Railway was created recently to construct and operate a railway in northern British Columbia (RA, May 16, p. 7). To make the survey, Swedish industrialist Axel Wenner-Gren engaged Colonel Bingham, former chairman of the Board of Transportation of the City of New York, who had retired as executive director and general manager of the New York City Transit Authority. Colonel Bingham was asked to report on a route and general plan for a means of transporting iron ore, timber, pulp and other bulk commodities within a 50,000-square-mile area of northern British Columbia.

Although a monorail had been previously proposed for this area by other interests, Colonel Bingham recommended the construction of a conventional railway.

Colonel Bingham invited the firm of Minshall & Smith, Ltd., well-known consulting engineers in British Columbia, to become associated with him in the study, which was conducted in three phases: reconnaissance, aerial surveys and mapping, and projection of the route and construction planning. Aerial reconnaissance was made over 1,500 miles. Land totalling 340,000 acres was thus mapped. Under Colonel Bingham's direction, the most feasible route for a standard gage mainline railway was projected, taking into account the natural topography of the country.

People in the News

ATLANTIC COAST LINE.—On and after July 21 the address of the general offices of the ACL will be changed from Wilmington, N.C., to 500 Water Street, Jacksonville 2, Fla.

BALTIMORE & OHIO.—**Charles E. Bertrand,** recently appointed general manager, Eastern region, Baltimore, Md., named to the newly created position of assistant vice president—operations and maintenance. **C. Russell Riley,** chief engineer—construction and maintenance, appointed general manager, Eastern region. **Clarence E. Jackman,** assistant chief engineer—maintenance, promoted to chief engineer—construction and maintenance.

C. R. Wheeler, assistant general storekeeper, Baltimore, Md., promoted to purchasing agent—system, succeeding **Virgil N. Dawson,** retired.

CANADIAN NATIONAL.—**George Stiven,** general passenger agent, Atlantic region, Moncton, N.B., appointed the region's first passenger traffic manager.

James H. Pike, trainmaster, Northumberland division, Moncton, appointed to act as port director of the Borden, Prince Edward Island—Cape Tormentine, N.B., ferry service during the peak Summer traffic months. Mr. Pike will be located at Borden but will move between the two ports.

Archie W. Duffie, assistant editor, appointed editor of "Keeping Track," the monthly employee magazine of the CNR. **Germain Lavigne,** assistant to the editor, appointed editor of "Au Fil du Rail," the French version of "Keeping Track."

CANADIAN PACIFIC.—**T. Hooks,** freight traffic manager, Prairie region, Winnipeg, Man., transferred to the Pacific region, Vancouver, B.C. **F. K. Hollyman,** freight traffic manager, Eastern region, Toronto, Ont., succeeds Mr. Hooks. **A. M. Shields,** assistant general freight traffic manager-system, Montreal, Que., succeeds Mr. Hollyman. **V. R. Duncan,** assistant freight traffic manager, Vancouver, succeeds Mr. Shields. **R. A. Hasenstab,** general freight agent, Boston, Mass., appointed assistant freight traffic manager, Chicago, succeeding **H. Stockdale,** who retires June 30, on account of ill health. **P. G. Watts,** general manager, **Aroostook Valley,** at Presque, Isle, Me., succeeds Mr. Hasenstab.

CHICAGO & NORTH WESTERN.—**Barry Rogers,** west coast manager, trailer-on-flat-car operations, Transcontinental Transport, Inc., Los Angeles, appointed to the newly created position of director, motor services department, C&NW, Chicago. **Harold V. Reed,** auditor of passenger and station accounts, Chicago, named to the new position of assistant to director of commuter service there.

William R. Newgent, general agent, St. Louis, named to the newly created position of general agent—coal there.

Gerald M. Wollard named mechanical inspector-car, Chicago.

FLORIDA EAST COAST.—**E. H. Schoedinger** appointed safety director at St. Augustine, Fla.

MISSISSIPPI CENTRAL.—**S. J. Massey, Jr.,** appointed superintendent, Hattiesburg, Miss., with jurisdiction over the transportation and mechanical departments.

NEW HAVEN.—**W. P. Kennedy,** chief cost accountant, New Haven, Conn., appointed assistant to comptroller, with jurisdiction over the cost finding, joint facility and **New York Connecting RR** functions of the accounting department.

NEW YORK CENTRAL.—**W. D. Edson** appointed district industrial engineer, New York.

PIEDMONT & NORTHERN.—**H. B. Doster** appointed district freight agent, 199 West St. John Street, Spartanburg, S.C., succeeding **O. F. Asbury,** transferred to 506 Park Building, Cleveland, Ohio, to replace **W. R. Dunlap,** resigned.

RAILWAY EXPRESS AGENCY.—**James J. Ross** appointed superintendent, Washington division. **Ronald J. Evans** named superintendent, Indiana-Central Illinois division at Indianapolis, succeeding **Joseph J. Donovan,** transferred to the Ohio division at Cincinnati. **Edward W. Brown** appointed superintendent, Intermountain division at Denver, Colo. **Eugene E. Myers** named superintendent, Cleveland division.

READING.—**William J. Garrigan** appointed assistant to auditor of disbursements, Philadelphia, Pa., succeeding **Horace B. Welk,** retired.

RICHMOND, FREDERICKSBURG & POTOMAC.—**Thomas B. Choate,** assistant to director of personnel, appointed assistant director of personnel, Richmond, Va.

SEABOARD.—**H. W. Ewell,** general freight agent, Richmond, Va., appointed assistant manager TOFC traffic at that point. **Wallace Smith,** division freight agent, Miami, Fla., retired.

SOUTHERN.—**Robert L. Crawford, Jr.,** appointed general agent, freight and passenger departments, Miami, Fla., succeeding **Augustus G. Shook,** who retires July 1.

SOUTHERN PACIFIC.—**W. M. Jaekle** appointed general manager, San Francisco.

H. M. Williamson named chief engineer; **William J. Jones,** engineer maintenance of way and structures; **Alan D. DeMoss,** assistant engineer maintenance of way and structures, all at San Francisco.

WABASH.—**Arthur K. Atkinson,** chairman of the board, retires June 30. He will continue as a member of the board of directors.

OBITUARY

Cyril J. Cooney, 60, freight claim agent, **Illinois Central,** died June 15 at his home in Homewood, Ill.

William M. Fenwick, 85, retired passenger traffic manager, **Missouri-Kansas-Texas,** died June 16 at St. John's Hospital, St. Louis.

Robert D. Lynch, 70, retired assistant general freight agent, **Santa Fe,** died June 14 at his home in Chicago.

Walter J. O'Maley, 70, general manager, **Railway Express Agency,** Chicago, died June 13 at Memorial Hospital of Du Page County, Elmhurst, Ill.

Supply Trade

Harold Hauck has been appointed assistant sales manager in charge of railroad tooling, **Vascoloy-Ramet Corp.,** Waukegan, Ill., a newly created position. Mr. Hauck was formerly district supervisor of sales in the Indianapolis area.

Charles E. Bertrand
B&O

C. Russell Riley
B&O

Clarence E. Jackman
B&O

C. R. Wheeler
B&O

Barry Rogers
C&NW

Harold Hauck
Vascoloy-Ramet

J. G. Skaaren, general sales manager, **Stran-Steel Corp.,** has been appointed assistant to the president. **F. E. Daggett,** manager of the North Central sales office, succeeds Mr. Skaaren.

Edgar K. Lofton, manager railway sales, **SKF Industries, Inc.,** Philadelphia, Pa., named district manager, New York, succeeding **Harrison Wood,** who has joined the Reed Instrument Bearing Co., a division of SKF. **Guy G. Werner** named district manager, New England, Boston, Mass., succeeding **Donald H. Amidon,** who has been named to the newly created post of manager, Aircraft sales, Eastern region, Hartford, Conn.

The Ohio Locomotive Crane Co., Bucyrus, Ohio, has acquired the entire locomotive crane business of the **Wellman Engineering Co.** of Cleveland, Ohio.

John A. Ferguson has been appointed sales manager of **Athey Products Corp.,** Chicago. He was formerly sales manager of the Roto-Pak Sales Corp.

Offices of **Current Controls Corp.** have been moved from 542 North Dearborn to 7th floor, 200 South Michigan Avenue, Chicago 4.

You Ought To Know...

Lackawanna plans to sell or lease 400 pieces of real estate with a total value of $10 million. Included in the program: commercial development of most of the road's stations from Hoboken, N. J., to Buffalo, N. Y. DL&W President P. M. Shoemaker said the program is one result of a series of studies aimed at improving the railroad's financial position.

A $6,000,000 commuter subsidy was signed into law by New Jersey Governor Robert Meyner last week. Nine railroads thus became eligible for varying payments based on passenger miles in commuter service. Administrator of the payments, Highway Commissioner D. R. G. Palmer, said seven of the nine railroads had indicated in writing their willingness to sign contracts for service and that first payments might be made in August. (RA, June 13, p. 73).

Radioactive wastes in solid packages may now be shipped to land burial sites in AEC stations at Oak Ridge, Tenn. and Idaho Falls, Idaho. The two sites have been established on an interim basis. Permanent land burial sites are expected to be designated later. Wastes are required to be packaged in accordance with ICC regulations. The disposal service now available to all AEC licensees regardless of location was formerly available only to AEC contractors or for disposition of AEC Oak Ridge produced isotopes.

Agreed Charge No. 1000—on 100% of corn and grain products from Port Colborne, Ont., to Gorrie—will become effective July 4. That doesn't mean a thousand AC's are in current force; some earlier ones have been cancelled or amended and renumbered. But it does indicate that they are still popular with Canadian shippers.

New $1,750,000 freight house built by Burlington at North Kansas City, Mo., features an electrically operated center bridge spanning four house tracks, overhead aluminum rocker doors, a talk-back paging system and platform areas lighted by mercury vapor lamps. Serving the railroad and Burlington Truck Lines the modern steel structure is 709 ft long and covers more than 100,000 sq ft of space under one roof.

The death knell of UROC apparently was sounded prematurely. A spokesman for the troubled, independent rail labor organization said that the recent resignation of the president and secretary-treasurer of the United Railroad Operating Crafts had been misinterpreted by the press. He added, "We're very much alive. The board will meet at a very early date to choose a new president—probably someone from an eastern railroad this time."

An order for 108 diesel electric locomotives has been made by Egyptian Railways. Builder will be Henschel-Werke, GmbH, of Kassel, West Germany, a licensee of General Motors. Construction has already begun on 38 of the locomotives, which will be 1,950-hp units.

Intercity trucks hauled 26,558,983 tons of freight during the first four months of 1960—a 3.8% increase over the corresponding period of 1959, according to the American Trucking Associations.

A monorail system from Calgary to Vancouver through the Canadian Rockies has been suggested by a Canadian engineer. The 700-mile route could be built for $125 million, its proponent thinks.

A mutual assistance pact has been approved by seven airline unions—including the International Association of Machinists, Brotherhood of Railway Clerks and Transport Workers Union of America. The agreement, drafted by the Association of Air Transport Unions, provides basically that in a strike by one union the others will give all possible and practical moral and financial support.

Business Car 5 and Diner 970 (known as the "City Tavern") have been presented by C&O to the National Museum of Transport in St. Louis so that "future generations can see what different examples of rolling stock looked like in the first half of the 20th century." C&O Vice President—Operations M. I. Dunn made the presentation last week.

A restrictive clause in Canadian railroad truck and/or water competitive tariffs, which prevented their use in construction of rate combinations, will be removed, effective July 4. The action, taken jointly by the CNR and the CPR on their own motion, has been joyfully hailed by the Canadian Industrial Traffic League as indicative of a "new look" in Canadian railroading.

COMING NEXT WEEK . . .

New 37-Mile Ore Line in Canada

Latest rail extension into the iron ore country in Quebec is being pushed to completion this year. The new line is being constructed with 132-lb rail, welded into 1,000-ft lengths before being put in place.

Philadelphia's New Transit Cars

Shaping a new look for its subway-elevated service is part of Philadelphia's overall plan for upgrading rail commuter and transit service. First units of a new 270-car order are being delivered next week.

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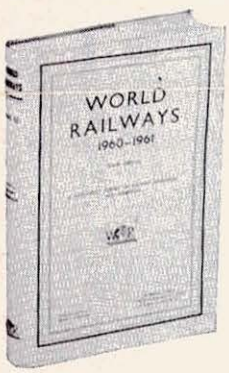

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Mr. Murphy Audits RR Efficiency

For the past year or more, President H. C. Murphy of the Burlington has been making detailed statistical studies, to bring to light the relative expense and revenue performance of his railroad's freight service, compared to that of several successful truck and barge lines serving the same geographical area. He has consented to our publication of a summary of his findings, which appears on another page of this issue.

His figures reveal beyond question that the railroad is outperforming rival transportation agencies in every category of relative efficiency except those which involve the fixed plant—which for the other agencies is provided by government (i.e., the taxpayers) either without any charge, or at extremely low charges, for the use of such facilities. The Burlington, meantime, provides its own fixed plant, maintains it and pays taxes on it—and has to attain a higher net earning ratio in order to service this investment.

Property taxes are particularly significant. Local governments—state, county, city and village—are supported by ad valorem taxes paid by property owners. Mr. Murphy's analysis shows that the railroad paid in *property* taxes roughly ten times the amount of such taxes paid by its competitors on the highways and waterways—in relation to each dollar collected from the public in freight charges. This injustice has a double impact. It signifies that trucks and barges carry only about one-tenth of their share of the cost of schools and essential government services at the local level. And, ironically, the tenfold share in local government cost that the railroad pays is used, in part, to provide costly services and facilities for the use of its competitors.

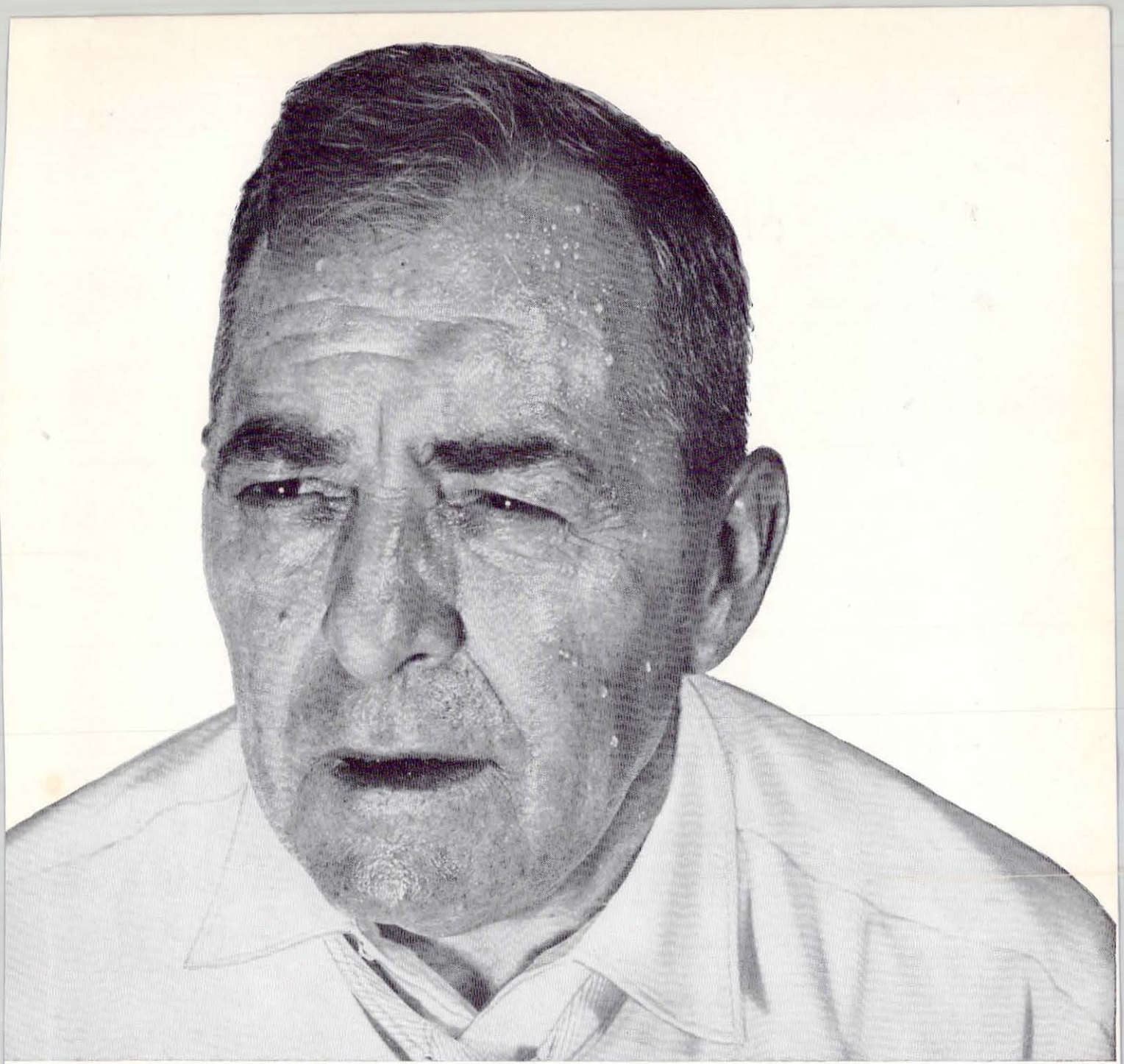
Let's make a rough quantitative estimate of the magnitude of the handicap borne by the railroad. Capital return at a modest 4% on a fixed plant investment of approximately $500,000,000 (charges which truck and barge operators largely escape) would come to $20,000,000 or almost 10% of total freight revenue earned by the railroad. If railroad maintenance of way expense were made equal to the composite ratio of that expense to trucks and barges (5.66%), another 7 points would come off the railroad expense ratio. Relief from property taxation (most of which barge and truck lines escape) would take about 5 more points off the total railroad expense ratio—and reduction in payroll taxes to the level paid by trucks and barges under Social Security would trim off another 2 points. $10 + 7 + 5 + 2 = 24$.

Thus, if the Burlington had the "institutional" advantages enjoyed by the barge and truck lines included in the table which Mr. Murphy has prepared, its net operating revenue from freight service, before federal income taxes, would have been greater by $51,000,000 (24% of $213,000,000) than it was in 1958. Assuming slightly more than half this amount were to go to the federal government in increased income taxes, there would still be an increase of about $25 million in net income for the railroad which—added to its actual net income in 1958—would more than double the net income the Burlington actually earned in that year.

Mr. Murphy does *not* advocate that the Burlington or any other railroads be removed from the tax rolls, or that government assist it or them in financing and maintaining their fixed property. He makes his comparisons to draw attention to the continuing inherent economic strength of railroads as an instrument of transportation—a fact which less acute observers have failed to take into account.

What possible excuse can governmental authorities offer for arbitrarily handicapping any type of useful public service, as they are now handicapping railroads? Placing a handicap of the magnitude of 24 percentage points of total revenue against the Burlington (and, presumably, against most other railroads as well) is a course of action that just cannot be rationalized.

If railroads were rid of this factitious encumbrance they would have the means to increase the number of freight train schedules, thus improving service to patrons. They would add to and improve their power, and their freight car fleets, so as to provide sturdier cars with improved bearings, and give the freight an "easier ride" at higher speeds. They would step up their track improvement programs; and further expand communications, yards and signals—all of which would contribute immeasurably to faster and more efficient transportation, and lower unit costs. The public is entitled to the best in railroad transportation. Present government policies deny railroads the opportunity to provide it.



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